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TENTH ANNUAL REPORT
OF THE
WATER COMMISSIONER



FOR THE YEAR ENDING
JANUARY 31, 1905

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Boston Water Board.

TENTH ANNUAL REPORT

OF THE

WATER COMMISSIONER

FOR THE

YEAR ENDING JAN. 31, 1905.

Printed for the Department



BOSTON

MUNICIPAL PRINTING OFFICE

1905

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Boston. Water Board.
May 21. 1904

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WATER BOARD

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OFFICE OF THE WATER COMMISSIONER,
CITY HALL, BOSTON, February 1, 1905.

HON. PATRICK A. COLLINS,

Mayor of the City of Boston:

SIR, — I submit herewith the tenth annual report of the doings of the Water Department, covering the year ending January 31, 1905.

The receipts and disbursements of the department for the year were as follows:

Total receipts from all sources	\$2,605,922 83
Balance at beginning of the year (loan)	284,512 15
Total	\$2,890,434 98
Total expenditures for all purposes	2,866,707 64
Balance at end of the year (loan)	<u>\$23,727 34</u>

TOTAL RECEIPTS OF THE YEAR BY SOURCES.

Sales of water	\$2,388,428 81
Service, elevator, fire, motor and stand pipes, and repairs, labor, materials, etc.	33,926 74
<i>Carried forward</i>	\$2,422,355 55

<i>Brought forward</i>	\$2,422,355 55
City's proportion of entrance fees from other cities and towns for use of Metropolitan water system,	16,475 04
Fees for summonses	2,004 89
Shutting off and letting on water, on account of repairs	1,634 50
Shutting off and letting on water, on account of non-payment of bills	1,356 00
Use of West Roxbury pumping plant	776 52
Difference on cost of laying main pipes	262 25
Interest on deposits	192 10
Board of City Engineer's horse	156 00
Use of land	10 00
	\$2,445,222 85
Credited from taxes	160,699 98
	<u>\$2,605,922 83</u>

EXPENDITURES.

Current expenses	\$543,747 20
Metropolitan water assessment	1,700,274 07
Interest on funded debt	360,815 00
Extension of mains, etc. (from loans)	260,784 81
Refunded water rates	1,086 56
	<u>\$2,866,707 64</u>

For detailed account of expenditures, condition of water debt, etc., see statements annexed.

Outside of the general work incident to the maintenance, of the department a 36-inch main has been laid from Washington street at Boylston street to Post Office square at Milk and Congress streets, via Essex, Kingston, Otis, Franklin and Congress streets, and a continuation of this line with 24-inch pipe through Post Office square and Water street to Washington street to take the place of the 24-inch low service main in Washington street which had to be abandoned on account of the building of the Washington street subway.

During the year a tunnel has been constructed for a large water main across Fort Point channel to augment the water supply to that part of the business section of the city on the south side of said channel, one object of this tunnel line being to furnish an adequate supply of water for fire protection to a section which has grown very rapidly within the past few years, consequently greatly increasing the fire risk.

A more detailed description of the above-mentioned work will be found on pages 64 and 65 of this report.

Reports in detail of work performed in the Income and Distribution Divisions and the Engineering Department will be found in the appendices annexed hereto.

Respectfully,

EUGENE S. SULLIVAN,

Water Commissioner.

Details of Expenditures under the appropriation for Current Expenses for the fiscal year ending January 31, 1905.
(From Revenue.)

Salaries and wages:

Eugene S. Sullivan, Commissioner . . . \$5,000 00

Assistant Commissioners:

Isaac Rosnosky 3,000 00

John J. Leahy 3,000 00

Chief Clerk and Secretary 3,000 00

Employees 417,471 35

\$431,471 35

Stable:

Hay, grain, straw, and board . . . \$8,698 60

Horseshoeing, veterinary services, etc. . . 2,956 19

Vehicles and repairs 2,779 90

Horses, purchase of 1,685 00

Harnesses and repairs, etc. 1,067 90

17,187 59

Tools, machinery, and repairs of same, iron, steel, hardware, and small supplies

13,806 37

Water pipes and other castings

11,572 55

Meters:

New meters \$7,537 00

Repairs and extra parts 1,180 62

8,717 62

Repairs and alterations of buildings, streets, and structures

7,794 52

Lead and lead pipe

5,816 92

Travelling expenses and transportation of employees

5,217 92

Printing

4,383 42

Blasting and excavating pipe trenches

3,596 18

Fuel

3,531 67

Salt

3,457 63

Lumber

3,287 17

Telephone service

1,724 46

Teaming and freights

1,638 56

Stationery, postage, etc.

1,493 82

Gravel and crushed stone

1,219 11

Rent

1,020 00

Oils

681 99

Cement and sand

511 90

Waterproof clothing

504 42

Gas

399 23

Taxes

307 65

Thawing water pipes by electricity

300 00

Professional and expert services

284 50

Bricks

232 30

Advertising

177 48

Salt hay

123 88

Recording papers

46 50

Ice

43 45

Furniture

37 78

Drain pipe

32 25

Premium on surety bonds

25 00

Land damages, Whitehall pond

7,731 09

\$538,376 28

Damages

5,370 92

\$543,747 20

Details of Expenditures under the appropriation for Extension of Mains, etc., for the fiscal year ending January 31, 1905. (From Loan.)

Employees	\$82,770 75
Water pipes and other castings	108,116 31
Tunnel under Fort Point channel at Congress-street bridge, Charles A. Haskin	32,404 76
Repairs and alterations of streets and structures	7,488 23
Lumber	7,082 53
Lead and lead pipe	6,715 82
Teaming and freights	5,355 06
Blasting pipe trenches and relaying pipes	3,661 88
Tools, iron, steel and hardware	2,725 51
Fuel	1,519 95
Gravel and crushed stone	1,064 60
Transportation of employees	1,041 00
Cement and sand	281 75
Bricks	237 25
Oils	171 74
Drain pipe	147 67
	<u>\$260,784 81</u>

There was also expended by the Water Department under an appropriation of \$5,000 from the Reserve Fund for ice for drinking fountains (order of City Council June 15, 1904):

Ice	\$4,224 15
Advertising	26 65
	<u>\$4,250 80</u>

COST OF CONSTRUCTION AND CONDITION OF THE WATER DEBT.

Cost of construction of Water Works to February 1, 1904	\$16,025,824 04
Cost of construction of Water Works to February 1, 1905	16,247,419 53
Increase during the year	<u>\$221,595 49</u>
Stock on hand February 1, 1904	\$152,398 21
Stock on hand February 1, 1905	143,012 97
Decrease during the year	<u>\$9,385 24</u>
The outstanding Water Loans February 1, 1904, were	\$8,227,000 00
The outstanding Water Loans February 1, 1905, were	8,224,000 00
Decrease during the year	<u>\$3,000 00</u>
The Water Sinking-Fund February 1, 1904, was	\$7,337,902 79
The Water Sinking-Fund February 1, 1905, was	7,600,689 44
Increase during the year	<u>\$262,786 65</u>

Net Water Debt February 1, 1904	.	.	.	.	.	\$889,097 21
Net Water Debt February 1, 1905	.	.	.	.	.	623,310 56
Decrease during the year	.	.	.	.	.	<u>\$265,786 65</u>

The outstanding Water Loans on this date, February 1, 1905, are as follows:

Loans.		Date of Maturity.	Amount.
6	per cent. Currency,	Due April, 1905 . . .	\$53,700 00
6	" " "	" July, 1905 . . .	10,000 00
6	" " "	" Oct., 1905 . . .	6,000 00
6	" " Gold Loan,	" Oct., 1905 . . .	887,000 00
6	" " Currency,	" Jan., 1906 . . .	80,550 00
6	" " "	" April, 1906 . . .	8,750 00
5	" " Gold Loan,	" April, 1906 . . .	549,000 00
5	" " "	" Oct., 1906 . . .	1,793,000 00
6	" " Currency,	" Oct., 1906 . . .	4,000 00
6	" " "	" Jan., 1907 . . .	7,000 00
6	" " "	" April, 1907 . . .	5,000 00
6	" " "	" July, 1907 . . .	1,000 00
5	" " Currency Loan,	" Oct., 1907 . . .	1,000 00
5	" " " "	" April, 1908 . . .	12,000 00
4	" " Loan,	" July, 1909 . . .	70,000 00
4 $\frac{1}{2}$	" " "	" Oct., 1909 . . .	268,000 00
4	" " "	" April, 1910 . . .	277,000 00
4	" " "	" April, 1912 . . .	324,000 00
4	" " "	" Oct., 1913 . . .	56,000 00
4	" " "	" Jan., 1914 . . .	459,000 00
4	" " "	" April, 1914 . . .	18,500 00
4	" " "	" Oct., 1914 . . .	16,000 00
4	" " "	" April, 1915 . . .	45,700 00
4	" " "	" Oct., 1915 . . .	23,000 00
4	" " "	" Jan., 1916 . . .	8,000 00
4	" " "	" April, 1916 . . .	28,500 00
4	" " "	" Oct., 1916 . . .	11,300 00
4	" " "	" Jan., 1917 . . .	21,000 00
3 $\frac{1}{2}$	" " "	" April, 1917 . . .	275,000 00
4	" " "	" April, 1917 . . .	6,000 00
4	" " "	" July, 1917 . . .	7,000 00
4	" " "	" Oct., 1917 . . .	158,700 00
4	" " "	" Jan., 1918 . . .	20,000 00
4	" " "	" April, 1918 . . .	6,300 00
3 $\frac{1}{2}$	" " "	" July, 1918 . . .	100,000 00
4	" " "	" Oct., 1918 . . .	95,000 00
4	" " "	" April, 1919 . . .	200,000 00
3 $\frac{1}{2}$	" " "	" Oct., 1919 . . .	2,000 00
4	" " "	" Oct., 1919 . . .	190,000 00
3 $\frac{1}{2}$	" " "	" Nov., 1919 . . .	122,000 00
3 $\frac{1}{2}$	" " "	" Jan., 1920 . . .	70,000 00
4	" " "	" Oct., 1920 . . .	303,000 00
4	" " "	" April, 1921 . . .	100,000 00
4	" " "	" Oct., 1921 . . .	162,500 00
4	" " "	" Jan., 1922 . . .	100,000 00
4	" " "	" April, 1922 . . .	75,000 00
4	" " "	" Oct., 1922 . . .	200,000 00
4	" " "	" Oct., 1923 . . .	26,275 00
4	" " "	" Oct., 1924 . . .	526,225 00
3 $\frac{1}{2}$	" " "	" Oct., 1927 . . .	25,000 00
3 $\frac{1}{2}$	" " "	" July, 1929 . . .	410,000 00
Total			<u>\$8,224,000 00</u>

WATER DEPARTMENT.

SUMMARY.

3½	per cent.	Loans	.	.	.	.	.	.	.	.	\$1,004,000	00
4	"	"	.	.	.	.	.	.	.	.	3,534,000	00
4½	"	"	.	.	.	.	.	.	.	.	268,000	00
5	"	"	Currency Loans	.	.	.	.	.	.	.	13,000	00
5	"	"	Gold	.	.	.	.	.	.	.	3,229,000	00
6	"	"	Loans	.	.	.	.	.	.	.	176,000	00
Total											\$8,224,000	00

Cochituate Water Sinking-Fund Receipts.

[SINCE THE ESTABLISHMENT OF THE BOARD OF SINKING-FUND COMMISSIONERS IN 1871.]

YEAR.	From Tax Levy of City Income.	Interest on Investments.	Interest on Bank Deposits.	Water Rates, etc.	Premiums on Loans.	Other Sources.	Totals.
1871. April 30, received from Committee on Reduction of Debt.....	\$1,100,000 00	.....	.....	.....	.....	.....	\$1,100,000 00
1871-72.....	14,325 00 Taxes, 9,375 00	\$61,000 00	\$349 67	.....	.....	.....	85,049 67
1872-73.....	9,000 00	70,137 50	1,017 80	.....	.....	.....	80,155 30
1873-74.....	30,090 00	76,799 60	2,072 65	.....	.....	.....	108,962 25
1874-75.....	75,973 28	82,842 25	2,121 13	.....	.....	.....	160,936 66
1875-76.....	65,554 00	85,470 00	3,617 55	.....	.....	\$386 00	155,027 55
1876-77.....	234,814 00	86,245 66	4,119 47	\$26,480 18	.....	915 46	352,574 77
1877-78.....	Taxes, 214,500 00	85,830 85	10,809 31	27,099 92	.....	.....	338,240 08
1878-79.....	Taxes, 207,456 00	93,264 49	6,181 26	177,195 91	.....	9,874 21	493,971 87
1879-80.....	.....	90,472 42	5,687 62	214,707 24	.....	4,411 64	315,278 92
1880-81.....	.....	86,460 00	167 32	195,668 90	.....	1,762 04	284,058 26
1881-82.....	.....	90,546 35	2,767 90	193,840 36	.....	494 08	293,648 69
1882-83.....	.....	105,129 51	8,486 33	219,581 72	.....	1,241 04	331,438 60
1883-84.....	Taxes, 973 00	138,120 90	2,268 22	.....	.....	.....	141,362 12
1884-85.....		143,049 45	7,510 40	209,258 39			359,818 24
1885-86.....		156,694 01	5,804 31	120,129 12		442 27	283,069 71

WATER DEPARTMENT.

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1886-87.....	Taxes, 75,496 00	181,204 89	2,644 70	297,928 95		5,081 12	562,415 66
1887-88.....		199,883 90	4,178 16	221,620 11			425,682 17
1888-89.....	.....	213,048 22	8,958 69	256,012 57	\$11,552 50	.....	489,572 98
1889-90.....	.....	228,000 83	11,730 60	300,903 00	36,092 50	.....	576,726 93
1890-91.....	.....	229,509 17	29,763 94	242,675 22	36,530 00	.....	538,478 33
1891-92.....	.....	175,808 33	22,560 16	275,014 05	.....	78,865 00	552,247 54
1892-93.....	.....	260,506 20	30,148 34	240,435 00	16,413 50	.....	547,503 04
1893-94.....	.....	298,224 44	18,133 03	299,467 27	14,621 75	.....	630,446 49
1894-95.....	.....	312,332 05	18,524 22	297,518 29	.....	9,894 12	638,268 68
1895-96.....	.....	378,819 55	5,892 29	205,791 00	64,690 00	.....	655,192 84
1896-97.....	.....	403,840 02	5,225 68	194,740 00	.....	616 50	604,421 60
1897-98.....	.....	421,928 45	8,337 21	193,395 00	8,833 50	15,877 86	648,372 02
1898-99.....	.....	417,142 02	5,806 85	193,395 00	.....	8,016 00	624,359 87
1899-1900.....	.....	383,662 97	7,632 45	209,824 00	29,835 70	2,148 90	633,104 02
1900-1901.....	.....	397,985 35	15,948 83	206,489 00	.....	.....	620,423 18
1901-1902.....	.....	325,030 96	31,199 25	.....	.....	* 609,000 00	965,230 21
1902-1903.....	.....	313,707 65	37,297 28	.....	.....	.....	351,004 93
1903-1904.....	.....	149,255 27	8,318 82	.....	.....	282 10	157,856 19
1904-1905.....	.....	260,239 40	5,547 25	.....	.....	.....	265,786 65
Taxes, 75,496 00		\$7,008,252 66	\$340,828 09	\$5,016,171 20	\$218,569 45	\$749,308 34	\$15,370,686 02

* Water Works Fund.

Cochituate Water Debt, Gross and Net.

At the Close of Each Fiscal Year.

Fiscal Year.	Gross Debt.	Sinking-funds.	Net Debt.
1847-48.....	¹ \$2,129,056 32	.....	\$2,129,056 32
1848-49.....	3,787,328 98	.....	3,787,328 98
1849-50.....	4,463,205 56	.....	4,463,205 56
1850-51.....	4,955,613 51	.....	4,955,613 51
1851-52.....	5,209,223 26	.....	5,209,223 26
1852-53.....	5,972,976 11	.....	5,972,976 11
1853-54.....	5,432,261 11	.....	5,432,261 11
1854-55.....	5,403,961 11	.....	5,403,961 11
1855-56.....	5,230,961 11	.....	5,230,961 11
1856-57.....	5,031,961 11	.....	5,031,961 11
1857-58.....	4,724,961 11	.....	4,724,961 11
1858-59.....	4,754,461 11	.....	4,754,461 11
1859-60.....	3,846,211 11	.....	3,846,211 11
1860-61.....	3,455,211 11	.....	3,455,211 11
1861-62.....	3,012,711 11	.....	3,012,711 11
1862-63.....	2,992,711 11	.....	2,992,711 11
1863-64.....	2,992,711 11	.....	2,992,711 11
1864-65.....	2,942,711 11	.....	2,942,711 11
1865-66.....	3,152,711 11	.....	3,152,711 11
1866-67.....	3,370,711 11	.....	3,370,711 11
1867-68.....	3,867,711 11	.....	3,867,711 11
1868-69.....	5,107,711 11	.....	5,107,711 11
1869-70.....	5,731,711 11	.....	5,731,711 71
1870-71.....	6,482,711 11	\$1,100,000 00	5,382,711 11
1871-72.....	6,812,711 11	1,185,049 67	5,627,661 44
1872-73.....	6,912,711 11	1,268,234 97	5,644,476 14
1873-74.....	7,863,711 11	1,372,953 62	6,490,757 49
1874-75.....	8,123,711 11	1,533,890 28	6,589,820 83
1875-76.....	9,735,711 11	1,560,917 83	8,174,793 28
1876-77.....	11,548,711 11	1,709,492 60	9,839,218 51
1877-78.....	11,545,273 98	2,043,764 73	9,501,509 25
1878-79.....	11,753,273 98	2,143,847 85	9,609,426 13
1879-80.....	11,697,273 98	1,771,692 92	9,925,581 06
1880-81.....	11,631,273 98	1,989,300 88	9,641,973 10
1881-82.....	11,631,273 98	2,281,857 89	9,349,416 09
1882-83.....	11,955,273 98	2,607,768 46	9,347,505 52
1883-84.....	12,882,273 98	2,746,505 58	10,135,768 40
1884-85.....	13,045,473 98	3,106,323 82	9,939,150 16
1885-86.....	13,491,473 98	3,385,201 26	10,106,272 72
1886-87.....	14,142,273 98	3,947,616 92	10,194,657 06
1887-88.....	14,741,273 98	4,373,304 09	10,367,969 89
1888-89.....	14,941,273 98	4,864,092 54	10,077,181 44
1889-90.....	15,696,273 98	5,440,819 47	10,255,454 51
1890-91.....	16,267,773 98	5,979,297 80	10,288,476 18
1891-92.....	16,423,773 98	6,471,545 34	9,952,228 64
1892-93.....	16,758,773 98	7,019,058 38	9,739,715 60
1893-94.....	17,055,273 98	7,649,504 87	9,405,769 11
1894-95.....	17,761,273 98	8,444,773 55	9,316,500 43
1895-96.....	18,261,273 98	9,099,966 39	9,161,307 59
1896-97.....	18,261,273 98	9,704,387 99	8,556,885 99
1897-98.....	17,911,273 98	9,852,760 01	8,058,513 97
1898-99.....	17,121,273 98	9,487,119 88	7,634,154 10
1899-1900.....	17,306,273 98	9,870,223 90	7,436,050 08
1900-1901.....	11,960,273 98	10,144,647 08	1,815,626 90
1901-1902.....	11,351,917 28	10,422,449 77	929,467 51
1902-1903.....	9,501,000 00	8,893,615 94	607,384 06
1903-1904.....	8,227,000 00	7,337,902 79	889,097 21
1904-1905.....	8,224,000 00	7,600,689 44	623,310 56

¹ No account taken of amounts borrowed temporarily from 1846 to 1852 and afterwards funded by the issue of water bonds that figure in this statement.

Contracts in Excess of \$1,000 Made and Pending during Year Commencing February 1, 1904, and ending January 31, 1905.

Contracts marked thus () are completed.*

WATER DEPARTMENT.

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DATE.	CONTRACTORS.	WORK.	AMOUNT.	PAID ON CONTRACT.	
				Previous Year.	Year 1904-1905. Total.
1903.					
* Mar. 13,	H. P. Nawn...	{ Teaming water pipes and materials for year ending January 31, 1904.....	{ 53 cents per ton, 2,000 lbs., for short haul..... 80 cents per ton, 2,000 lbs., for long haul.....	\$1,626 87	\$183 17 \$1,810 04
* Mar. 14,	Foxboro Foundry Co..	{ Small iron castings for year ending January 31, 1904.....	{ No. 1, @ 3 ³⁵ / ₁₀ cents per lb..... No. 2, @ 2 ⁹ / ₁₀ " " ".....	36,078 15	9,147 80 45,225 95
* Mar. 14,	J. H. McCafferty & Co..	{ Composition castings for year ending January 31, 1904.....	{ No. 1, @ 20 ¹ / ₂ cents per lb..... No. 2, @ 21 " " "..... No. 3, @ 15 " " ".....	5,133 01	2,267 08 7,400 09
* Mar. 16,	{ United States Cast Iron Pipe and Foundry Co.	{ 160 tons 36-inch pipe, B. 460 " 16-inch " B. 1,260 " 12-inch " B. 350 " 10-inch " B. 500 " 8-inch " B. 150 " 6-inch " B. 20 " 4-inch " B. ----- 2,900 " straight pipe..... 15 " special castings.....	@ \$29.70 per ton, 2,000 lbs. @ \$55.00 " " ".....	72,624 08	15,601 31 88,225 39
* Sept. 17,	Camden Iron Works....	{ 300 tons 36-inch pipe, B. 370 " 30-inch " B. 300 " 12-inch " B. 350 " 10-inch " B. ----- 1,320 " pipe... .. 15 " special castings.....	@ \$27.40 per ton, 2,000 lbs..... @ \$54.00 " " ".....	15,487 85	20,294 40 35,782 25

July 5,	J. H. McCafferty & Co..	{ Composition castings for year ending Janu- ary 31, 1905.....	{ No. 1 @ 18 $\frac{1}{16}$ cents per lb..... } No. 2 @ 18 $\frac{1}{16}$ " " " " } No. 3 @ 14 " " " " }	.....	2,203 78	2,203 78
* Oct. 10,	John T. Cavanagh.....	{ Removing 43 spurshores and furnishing, driving and bolting in place 43 new oak spurshores at water-pipe box, Neponset bridge.....	@ \$30 each.....	.....	1,290 00	1,290 00
Dec. 6,	United States Cast Iron Pipe and Foundry Co.	{ 10 tons 4-inch pipe..... } 4 30-inch flange pipes..... } 3 " " " " bead ends..... } 2 " " " " curves, special..... } 8 " " " " $\frac{1}{16}$ " " " " } 3 " " " " with lugs on bell } 3 20-inch " " " " " " } 3 30-inch " " " " B. W. W. pattern }	@ \$26.90 per ton f.o.b. cars Boston.	.....	.....	.....
Dec. 16,	Charles A. Haskin.....	{ Tunnel for water pipe under Fort Point } channel at Dover-street bridge..... }	2 $\frac{3}{4}$ " " " " " "	.....	.....	.....
			\$28,400 00 .....	.....	.....	.....

† Paid from special appropriation.

REPORT OF INCOME DIVISION.

BOSTON, February 1, 1905.

MR. EUGENE S. SULLIVAN,

Water Commissioner :

DEAR SIR, — Herewith follows the annual report of the Income Division, Water Department. The report of the Meter Service Division covers the financial year ending January 31, 1905 ; the remainder of the report is rendered for the calendar year ending December 31, 1904 — it being impracticable, owing to the nature of our accounts, to render it for the financial year.

Respectfully submitted,

J. H. CALDWELL,

General Superintendent Income Division.

Table I.

Statement of Water Rates—January 1, 1905.

Account of Year.	Amount Assessed.	Amount Abated.	Amount Collected.	Balance Outstanding.
1894.....	\$2,163,625 70	\$51,615 19	\$2,112,006 01	\$4 50
1895.....	2,666,519 08	55,409 79	2,211,008 55	100 75
1896.....	2,568,246 04	* 95,157 39	2,473,083 65	5 00
1897.....	2,630,413 37	53,864 09	2,576,549 28	.....
1898.....	2,342,804 58	† 235,414 43	2,107,390 15	.....
1899.....	2,414,731 72	† 258,319 16	2,156,246 26	166 30
1900.....	2,197,026 64	46,745 05	2,150,124 59	157
1901.....	† 2,264,845 26	46,461 68	2,217,869 38	514 20
1902.....	† 2,327,926 31	43,706 01	2,283,783 28	437 02
1903.....	† 2,386,336 04	56,881 35	2,327,733 90	1,720 79
1904.....	† 2,383,580 44	19,798 25	2,073,168 60	290,613 59

Above amounts for years 1894, 1895, 1896, and 1897 include both Cochituate and Mystic supply accounts. The contracts to supply Chelsea, Somerville, and Everett with Mystic water were abrogated by the Metropolitan Water Act on January 1, 1898.

* This amount includes certain City Department accounts, abated by order of the Mayor.

† These amounts include abatements of City Department accounts, under order of the City Council, approved by the Mayor on March 5, 1900.

‡ No City Department accounts in these amounts, such charges having been abolished by an order of the City Council, approved by the Mayor on March 5, 1900.

Table II.*Number of Classified Water Takers during 1904.*

	Number.
By annual rates.....	93,112
By meter rates.....	5,391
City supplies of all kinds.....	9,063
Total.....	107,566

Table III.*Kind and Number of Fixtures in Use December 31, 1904.*

	Number.
Bath-tubs.....	85,207
Bowls.....	124,510
Foot-tubs.....	347
Sinks.....	185,689
Taps.....	32,322
Urinals, automatic.....	5,074
“ otherwise.....	656
Wash-tubs.....	132,881
Water-closets.....	167,835
Total fixtures.....	734,521

Table IV.*Water at Annual Rates.*

CLASSIFICATION.	Number.	Amount.
Armories.....	2	\$40 50
Bakeries.....	260	3,494 17
Bath-house.....	1	17 00
Building purposes.....	550	6,638 43
Cemeteries.....	6	32 00
Churches.....	247	2,953 84
Clubs.....	205	2,935 97
Depots and stations.....	61	1,294 78
Dispensaries.....	4	66 00
Dwelling-houses.....	53,672	788,883 17
Fountains.....	7	43 00
Freight-houses.....	11	109 00
Greenhouses.....	57	933 00
Gymnasium.....	1	46 50
Halls.....	128	1,942 00
Hand hose.....	8,995	44,975 00
Hospitals and asylums.....	53	4,236 83
Hotels.....	2	511 50
Laboratories.....	2	65 00
Laundries.....	456	8,864 67
Libraries and museums.....	8	98 00
Manufactories.....	16	311 92
Model houses.....	12,939	284,792 96
Motors.....	7	50 00
Offices.....	1,596	14,269 10
Photographers.....	47	1,180 92
Police station.....	1	10 00
Puddling trenches.....	30	635 57
Restaurants and lunch rooms.....	472	7,824 49
Saloons.....	509	20,119 57
Schools.....	86	1,554 75
Shops.....	3,062	27,112 84
Street watering.....	11	293 82
Shipping.....	18	640 71
Stables.....	3,106	21,438 77
Steam and gas engines.....	130	1,677 42
Steam crusher.....	1	25 00
Stores.....	6,352	69,708 25
Tanks.....	1	15 40
Totals.....	93,112	\$1,319,841 85

Table V.

Water at Meter Rates.

CLASSIFICATION.	Number.	Quantity of Water Consumed. Cubic Feet.	Amount Assessed.
Armories	3	291,000	\$400 10
Bakeries.....	23	1,974,000	2,596 15
Bath-houses.....	10	900,000	1,192 90
Boarding-houses	104	6,538,000	8,641 30
Bottling establishments	43	2,903,000	3,875 20
Breweries.....	26	20,175,000	24,908 30
Cemeteries	5	1,072,000	1,322 65
Chemicals.....	6	2,034,000	2,528 50
Club-houses	43	10,015,000	12,541 80
Distilleries.....	4	1,108,000	1,408 20
Electrical.....	10	25,478,000	24,543 10
Elevators and motors.....	515	35,980,000	46,759 85
Factories.....	248	40,741,000	52,554 96
Fish-houses.....	29	1,798,000	2,397 00
Garage.....	8	772,000	1,020 20
Gas works	14	11,600,000	13,488 20
Greenhouses	10	922,000	1,203 10
Halls	22	1,224,000	1,857 40
Hospitals	18	10,061,000	12,313 30
Hotels.....	132	89,675,000	108,520 22
Iron works.....	54	10,885,000	13,741 37
Laundries	58	16,483,000	20,294 60
Markets.....	4	176,000	237 20
Mills and engines.....	59	11,446,000	14,915 94
Model houses	1,281	76,521,000	103,922 33
Navy Yard and barracks.....	12	21,908,000	19,613 11
Offices, stores, and shops.....	1,642	172,080,000	223,986 64
Oil works.....	5	416,000	565 40
Public Institutions.....	6	10,793,000	12,988 60
Saloons and restaurants.....	404	26,800,000	35,489 34
Schools.....	49	6,634,000	8,663 01
Slaughtering houses.....	2	1,414,000	1,726 10
Stables.....	358	17,529,000	24,103 88
Steam and street railways.....	54	201,750,000	196,827 52
Stone works.....	6	1,260,000	1,621 90
Sugar refineries	1	28,228,000	24,206 40
Tanneries.....	5	363,000	501 30
Theatres.....	22	4,097,000	5,280 40
Warehouses.....	23	5,965,000	7,465 70
Wharves and shipping.....	73	25,033,000	31,309 43
Totals	5,391	905,042,000	\$1,071,532 60

Table VI.*Number and Amounts of Abatements Allowed during the Year 1904.*

ON ACCOUNT OF ASSESSMENTS FOR YEAR.	Number.	Amount.
1899.....	2	\$389 00
1900.....	1	288 00
1901.....	6	902 51
1902.....	60	1,031 99
1903.....	2,032	24,106 34
1904.....	2,837	19,798 25
Total	4,938	\$46,516 09

Table VII.*New Elevator, Motor and Service Pipes.*

Elevator pipes.....	24
Motor pipes.....	6
Fire pipes.....	57
Service pipes.....	882
Total.....	969

Table VIII.*Turning Water Off and On.*

For repairs of mains.....	768
For repairs of services.....	3,615
For non-payment of water bills.....	1,835
For waste.....	8
Turned on first time.....	730
Vacancies.....	3,432
Total.....	10,388

Table IX.

Off and On Receipts.

Received for turning water off and on for repairs — deposited with City Collector.....	\$1,720 50
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Table X.

ELEVATOR, MOTOR, AND FIRE PIPE SERVICE, FOR THE YEAR
ENDING DECEMBER 31, 1904.

Elevators.

Under supervision December 31, 1903	588	
Discontinued during the year	6	
Changed to electric	5	
	—	11
		—
New elevators inspected and accepted during the year		577
		15
		—
Under supervision December 31, 1904		592
		<u>592</u>
Inspections made		672
Accuracy tests made		471
Registering inaccurately and repaired by owners		63
Wasting water and repaired by owners		10
Clock cord broken and repaired by owners		35
Clock hands off or glass broken and repaired by owners		14

Motors.

Under supervision December 31, 1903	130	
Discontinued	3	
Changed to electric	5	
	—	8
		—
New motors added to service during the year		122
		2
		—
Under supervision December 31, 1904		124
		<u>124</u>
Motors on meter		16
Inspections made		55
Measured		4
Tested		34
Registering inaccurately and repaired by owners		5
Not registering and repaired by owners		4
Wasting water and repaired by owners		5

Fire Service.

Premises under supervision December 31, 1903	474
Supervision discontinued	8
	466
Premises equipped during the year	35
Premises under supervision December 31, 1904	501
Inspection of premises	3,342
Total number of inspections of outlet valves	35,366
Total number of hydrant inspections	703
Total number of valves sealed and resealed	3,333
Total number of hydrant valves sealed and resealed	124

By-passes.

Meter by-passes under supervision December 31, 1903	41
Discontinued	2
	39
By-passes additional	1
Under supervision December 31, 1904	40
Inspections made	218
Resealed	12

Table XI.

WASTE DETECTION.

Water Inspection.

	Number.
Waste reports.....	12,978
First examinations.....	12,978
Second examinations.....	12,574
Third examinations.....	4,263
Fourth examinations.....	996
Fine notices issued.....	233

Table XII.

Defective Fixtures and Waste.

	Number.
Tank fixtures leaking.....	10,154
Faucets leaking.....	5,789
Bursts inside.....	448
Bursts outside.....	26
Hopper-cocks leaking.....	98
Water-closets leaking.....	180
Wilful waste.....	43

Table XIII.

METER SERVICE.

Statement of Meters for Year ending January 31, 1905.

Meters belonging to department January 31, 1904	.	.	.	5,281
Purchased	.	.	.	212
In exchange	.	.	.	1
				5,494
Condemned during year	.	.	.	151
Lost	.	.	.	1
In exchange	.	.	.	1
				153
Belonging to department January 31, 1905	.	.	.	5,341

Table XIV.

Distribution of Meters, January 31, 1905.

In service	.	.		.	.	.	.	.	.	4,771
At department shop	:	.	.	.	.	.	.	.	.	570
										5,341

Table XV.

*General Statement of Work Performed on Meters During Year Ending
January 31, 1905.*

	Meters.	Boxes.
Applied	246	52
Discontinued	202	.....
Changed	706	.....
Changed location.....	17	.....
Tested	1,847	.....
Repaired at shop.....	729	.....
Repaired at factory.....	71	.....
Repaired in service.....	372	253
Examined	343	.....
Abandoned .....	.....	17
Hayed.....	1,302	.....
Condemned	151	.....
Purchased.....	212	.....
Meters in service.....	4,771	.....
Private meters applied.....	5	.....
Private meters in service.....	54	.....
At department shop.....	570	.....
Private meters discontinued.....	1	.....

Table XVI.*Meters Applied.*

	DIAMETER IN INCHES.								Totals.
	6	4	3	2	1½	1	¾	⅝	
Crown.	1	1	3	8	6	14	28	25	86
Hersey	1	6	4	16	20	16	65	1	129
Worthington.....				1	2	4	10	....	17
Metropolitan.....						1	9	....	10
Lambert					2				2
Disc					1				1
Gem.....	1								1
Totals	3	7	7	25	31	35	112	26	246

Table XVII.*Meters Discontinued.*

	DIAMETER IN INCHES.								Totals.
	6	4	3	2	1½	1	¾	⅝	
Crown.....	1	2	2	2	3	10	22	46	88
Hersey.....		1	....	4	3	9	11	....	28
Worthington.....				8	3	13	19	....	43
B. W. W.....							2	....	2
Metropolitan.....					1	5	32	....	38
Disc					1				1
Empire					1				1
Gem.....	1								1
Totals	2	3	2	14	12	37	86	46	202

Table XVIII.
Meters Purchased.

	DIAMETER IN INCHES.							Totals
	6	4	3	2	1½	1	¾	
Hersey.....	1	2	5	29	26	56	74	193
Crown.....	1	....	1	5	2	8	2	19
Totals.....	2	2	6	34	28	64	76	212

Table XIX.
Meters Repaired at Factory.

	DIAMETER IN INCHES.								Totals.
	6	4	3	2	1½	1	¾	⅝	
Crown.....	1	....	1	4	3	3	15	24	51
Hersey.....	....	....	1	....	2	3	12	....	18
Disc.....	....	....	....	....	1	1	....	....	2
Totals.....	1	....	2	4	6	7	27	24	71

Table XX.
Meters Condemned.

	DIAMETER IN INCHES.						Totals.
	4	3	2	1½	1	¾	
Worthington.....	1	....	2	1	36	50	90
Metropolitan.....	....	....	1	2	15	37	55
Crown.....	....	1	....	....	....	1	2
B. W. W.....	....	....	....	....	....	3	3
Champion.....	....	....	....	....	....	1	1
Totals.....	1	1	3	3	51	92	151

Table XXI.*Meters Repaired in Service.*

Cause of repairs.	Totals.	Cause of repairs.	Totals.
Clock broken	51	<i>Brought forward</i>	351
Ratchet broken	12	Stop cock leak	2
Glass broken	58	Spindle broken	2
Cover broken	29	Gear bound	4
Coupling leak	67	Fish	1
Spindle leak	85	Gear broken	1
Valve leak	1	Box broken	3
Gear loose	4	Spindle loose	1
Clock bound	6	Clock loose	3
Did not mesh	4	Piston bound	1
Irregular registration	6	Piston rod broken	1
Hands broken	14	Stop cock broken	1
Body leak	2	Body broken	1
Defaced	12	Spindle bound	1
<i>Carried forward</i>	351	Total	373

Table XXII.*Meters Changed.*

Cause.	Totals.	Cause.	Totals.
For test	177	<i>Brought forward</i>	561
Irregular registration	110	Ratchet broken	11
Stoppage	23	Rust	18
No force	43	Spindle broken	12
Frost	32	Shaft broken	2
Solder	21	Clock bound	2
Gravel	16	Relocation	13
Heat	7	Valve broken	2
Leak at body	12	Intermediate worn	5
Leak at spindle	4	Intermediate broken	58
Clock broken	25	Gear loose	11
Piston bound	11	Dirt	1
Piston broken	1	Burst	2
Gear bound	7	Defaced	3
Gear broken	10	Intermediate bound	2
Gear worn	3	Gasket	1
Did not mesh	31	Fish	2
Enlargement	28		
		Total	706
<i>Carried forward</i>	561		

Table XXIII.*Meters in Service, January 31, 1905.*

	DIAMETER IN INCHES.								Totals.
	6	4	3	2	1½	1	¾	⅝	
Crown.....	10	44	52	85	166	371	446	1,201	2,375
Worthington.....	2	16	31	130	117	466	312	1	1,075
Hersey.....	7	11	23	78	100	176	281	19	695
Metropolitan.....	.....	.....	.....	1	18	72	433	2	526
B. W. W. ....	.....	.....	.....	.....	.....	.....	33	.....	33
Lambert.....	.....	.....	.....	.....	4	2	4	3	13
Thomson.....	.....	.....	.....	.....	.....	.....	.....	2	2
Gem.....	1	4	.....	.....	.....	.....	.....	.....	5
Trident.....	.....	.....	.....	.....	.....	2	.....	.....	2
Empire.....	.....	.....	.....	.....	5	5	2	.....	12
Nash.....	.....	.....	3	.....	1	2	1	1	8
Disc.....	.....	.....	6	5	11	2	.....	.....	24
Torrent.....	1	.....	.....	.....	.....	.....	.....	.....	1
Totals.....	21	75	115	299	422	1,098	1,512	1,229	4,771

Table XXIV.*Private Meters Set.*

	DIAMETER IN INCHES.		Totals.
	6	4	
Crown.....	3	.....	3
Hersey.....	.....	2	2
Totals.....	3	2	5

Table XXV.*Private Meters in Service January 31, 1905.*

	DIAMETER IN INCHES.								Totals.
	6	4	3	2	1½	1	¾	⅝	
Crown.....	6	2	2	5	10	4	2	4	35
Hersey.....	....	2	1	1	....	....	....	....	4
B. W. W.....	....	....	....	....	....	....	1	....	1
Worthington .....	....	....	2	5	....	3	....	2	12
Gem	2	....	...	....	....	....	....	....	2
Totals	8	4	5	11	10	7	3	6	54

Table XXVI.*Meters at Department Shop January 31, 1905.*

	DIAMETER IN INCHES.								Totals.
	6	4	3	2	1½	1	¾	⅝	
Crown.....	1	2	3	6	6	17	34	121	190
Worthington.....	....	4	2	17	9	52	31	6	121
Hersey.....	1	2	4	8	11	15	14	1	56
Metropolitan.....	....	....	....	2	....	43	129	....	174
B. W. W.....	....	....	....	....	....	....	1	....	1
Lambert.....	....	....	....	1	....	....	....	3	4
Thomson.....	....	....	....	....	....	....	2	4	6
Gem	1	1	4	2	....	....	....	....	8
Empire .....	....	....	....	....	2	....	....	....	2
Nash .....	....	....	....	....	....	....	1	1	2
Disc .....	....	....	....	....	2	....	....	....	2
Ball & Fitts.....	....	....	1	1	....	....	1	....	3
Rogers.....	....	....	....	....	....	....	1	....	1
Totals	3	9	14	37	30	127	214	136	570

AT METER SERVICE SHOP, 710 ALBANY STREET.

Meters Belonging to Department January 31, 1905.

Crown,	$\frac{5}{8}$ inch	. 1,322	Thomson,	$\frac{5}{8}$ inch	. 6	
"	$\frac{3}{4}$ "	. 480	"	$\frac{3}{4}$ "	. 2	
"	1 "	. 388				8
"	$1\frac{1}{2}$ "	. 172	Gem,	2 "	. 2	
"	2 "	. 91	"	3 "	. 4	
"	3 "	. 55	"	4 "	. 5	
"	4 "	. 46	"	6 "	. 2	
"	6 "	. 11				13
		—2,565	Trident,	1 "	. .	2
Worthington,	$\frac{5}{8}$ "	. 7	Empire,	$\frac{3}{4}$ "	. 2	
"	$\frac{3}{4}$ "	. 343	"	1 "	. 5	
"	1 "	. 518	"	$1\frac{1}{2}$ "	. 7	
"	$1\frac{1}{2}$ "	. 126				14
"	2 "	. 147	Nash,	$\frac{5}{8}$ "	. 2	
"	3 "	. 33	"	$\frac{3}{4}$ "	. 2	
"	4 "	. 20	"	1 "	. 2	
"	6 "	. 2	"	$1\frac{1}{2}$ "	. 1	
		—1,196	"	3 "	. 3	
Hersey,	$\frac{5}{8}$ "	. 20				10
"	$\frac{3}{4}$ "	. 295	Disc,	1 "	. 2	
"	1 "	. 191	"	$1\frac{1}{2}$ "	. 13	
"	$1\frac{1}{2}$ "	. 111	"	2 "	. 5	
"	2 "	. 86	"	3 "	. 6	
"	3 "	. 27				26
"	4 "	. 13	Ball & Fitts,	$\frac{3}{4}$ "	. 1	
"	6 "	. 8	"	2 "	. 1	
		—751	"	3 "	. 1	
B. W. W.,	$\frac{3}{4}$ "	. 34				3
Metropolitan,	$\frac{5}{8}$ "	. 2	Torrent,	6 "	. 1	
"	$\frac{3}{4}$ "	. 562	Rogers,	$\frac{3}{4}$ "	. 1	
"	1 "	. 115				
"	$1\frac{1}{2}$ "	. 18				
"	2 "	. 3				
		—700	Total,			<u>5,341</u>
Lambert,	$\frac{5}{8}$ "	. 6				
"	$\frac{3}{4}$ "	. 4				
"	1 "	. 2				
"	$1\frac{1}{2}$ "	. 4				
"	2 "	. 1				
		—17				

REPORT OF THE DISTRIBUTION DIVISION.

OFFICE OF THE SUPERINTENDENT,
710 ALBANY STREET, February 1, 1905.

EUGENE S. SULLIVAN, ESQ.,

Water Commissioner :

SIR, — I herewith submit in tabular form the annual report of the Distribution Division for the year ending January 31, 1905.

Respectfully* yours,

WILLIAM J. WELCH,
Superintendent.

**Statement of Location, Size, and Number of Feet of Main Pipe
Extended during the Year Ending January 31, 1905.**

NOTE.—C. P. indicates City Proper; Rox., Roxbury; W. R., West Roxbury; Bri., Brighton; Dor., Dorchester; S. B., South Boston; E. B., East Boston; Chsn., Charlestown; B. H., Boston Harbor.

LOCATION.		District.	High or Low Service.	Size.	Length.
Devonshire st.	Bet. Franklin and Otis sts.....	C. P.	L.	36-in.	225
Congress st.....	Bet. 24-inch gate south of Milk st. and 36×30 branch in Milk st. at Post Office sq.....	"	L.	"	44
"	Bet. Milk and Franklin sts.....	"	L.	"	305
Washington st.	" Codman st. and Ruggles pl.....	Dor.	H.	"	81
	Total 36-inch				655
"	At Burt st.....	Dor.	H.	30-in.	41
"	Bet. Fairmount and Codman sts.....	"	H.	"	833
	Total 30-inch				874
Congress st. (Post Office sq.)	Bet. Milk and Water sts.....	C. P.	L.	24-in.	305
Water st.....	" Congress and Devonshire sts.....	"	L.	"	219
	Total 24-inch.....				524

Statement of Main Pipe Extended. — *Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.
Essex st.....	At Washington st.....	C. P.	L.	20-in.	54
Codman st.....	“ “ “	Dor.	H.	“	62
“	Bet. Washington st. and Dorchester ave..	“	H.	“	260
	Total 20-inch.....				<u>376</u>
Bedford st.....	At Kingston st. (connection between 24-inch and 16-inch).....	C. P.	L.	16-in.	17
Congress st.....	At Milk st. (connection between 24-inch and 16-inch)	“	L.	“	25
Massachusetts ave.	Bet. Shirley st. and N. E. R.R. bridge...	Rox.	L.	“	254
Adams st.....	At Ashmont st. (connection between 20-inch and 12-inch)	Dor.	H.	“	7
A st.....	Bet. Melcher and Congress sts	S.B.	L.	“	70
Melcher st.....	“ A and Summer sts.....	“	L.	“	274
“	“ “ “ “	“	L.	“	197
A st.	At Congress st.....	“	L.	“	22
Congress st.....	Bet. Farnsworth and B sts.....	“	L.	“	602
	Total 16-inch				<u>1,468</u>
Essex st.....	At Oxford st. (connection between 36-inch and 12-inch).....	C. P.	L.	12-in.	15
Shawmut ave.....	Bet. Castle and Corning sts. (across railroad bridge)	“	L.	“	125
Devonshire st.....	At junction of Franklin st. (connection between 36-inch and 12-inch)	“	L.	“	30
Water st.....	East of Devonshire st. (connection between 24-inch and 12-inch).....	“	L.	“	12
Leatherbee st.....	Bet. Board of Survey No. 713 and Burnham sts.	Rox.	L.	“	367
Board of Survey st., No. 713	Bet. Southampton and Leatherbee sts...	“	L.	“	341
Ulmer st.....	“ Arklow and Centre sts.....	“	H.	“	627
Vila st.....	“ Francis st. and Longwood ave.....	“	L.	“	787
Centre st.	“ Richards and Park sts.....	W. R.	H.	“	219
Hyde Park ave.....	“ Larch pl. and Patten st.....	“	H.	“	2,209
“	“ Patten st. and Eldridge rd.....	“	H.	“	277
Florence st.....	“ Ashland and Sycamore sts.....	“	H.	“	120
“	At Hyde Park ave.....	“	H.	“	19
Washington st.	Bet. Fairmount and Codman sts.....	Dor.	H.	“	235
Adams st.....	At Ashmont st. (connection between 20-inch and 12-inch).....	“	H.	“	14
	<i>Carried forward</i>				<u>5,397</u>

Statement of Main Pipe Extended. — *Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.
	<i>Brought forward</i>				5,397
Codman st.....	Bet. Dorchester ave. and Washington st.	Dor.	H.	12-in.	78
“	At Washington st. (connection between 20-inch and 12-inch).....	“	H.	“	23
Mill st.....	Across Neponset ave.....	“	L.	“	80
Melville ave.....	Bet. Waldeck st. and Wellesley pk.	“	H.	“	24
Congress st.....	“ Farnsworth and B sts.....	S. B.	L.	“	14
Private way, off A st.....	“ Melcher and Congress sts.....	“	L.	“	12
Melcher st.....	“ A and Summer sts.....	“	L.	“	5
Stillings st.....	At Congress st.....	“	L.	“	3
Old Colony ave....	Across Dorchester st.....	“	L.	“	50
D st.....	From Dorchester ave.....	“	L.	“	48
Old Colony ave....	South side of Dorchester st.....	“	L.	“	38
Private way (opp. Hillside ave.)....	Bet. Wexford st. and B. S. & M. Ass'n Works	Bri.	L.	“	209
Wallingford rd ...	Bet. Chestnut Hill ave. and Melton rd....	“	H.	“	475
Burton st.....	Off Washington st.....	“	H.	“	504
Cleveland st.....	Bet. Prescott st. and Neptune ave.....	E. B.	L.	“	935
	Total 12-inch.....				<u>7,895</u>
Devonshire st.....	Bet. Milk and Franklin sts.....	C. P.	H.	10-in.	122
Burnham st.....	At Leatherbee st.....	Rox.	L.	“	73
Richards st.....	Bet. Montview and Centre sts.....	W. R.	H.	“	1,224
Eldridge rd	At Hyde Park ave.....	“	H.	“	13
St. Rose st. (former-ly Johnston st.)..	Off Jamaica st.....	“	H.	“	267
St. Rose st.....	“ Arborway	“	H.	“	247
Nathaniel Weld pl.	“ South st.....	“	H.	“	222
Floyd st.....	“ Blue Hill ave.....	Dor.	H.	“	249
Callender st.....	“ “ “	“	H.	“	162
	Total 10-inch.....				<u>2,579</u>
Federal st.....	At Franklin st.....	C. P.	H.	8-in.	44
“	Bet. Franklin and Milk sts.....	“	H.	“	243
“	“ “ “ “	“	H.	“	94
Vila st.....	Bet. Francis st. and rear of H. of G. Shepherd grounds.....	Rox.	L.	“	412
	<i>Carried forward</i>				793

Statement of Main Pipe Extended.—*Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.
	<i>Brought forward.....</i>	.....	.....	.....	793
Posen st.....	Bet. Arklow and Ulmer sts.....	Rox.	H.	8-in.	367
Bradford terrace..	Off Centre st.....	W. R.	H.	"	245
Unnamed st.....	Bet. Park and Richards sts.....	"	H.	"	43
Wyvern st.....	At Hyde Park ave.....	"	H.	"	13
Hunter st.....	" " " "	"	H.	"	13
Pleasant st.....	Off Montgomery st.....	"	H.	"	174
Dalrymple st.....	Bet. Egleston and Georgiana sts.....	"	H.	"	222
Georgiana st.....	At Dalrymple st.....	"	H.	"	38
Board of Survey st. No. 1488.....	Off Walk Hill st.....	"	H.	"	310
Grove st.....	At Dedham line (conn. bet. Dedham and Boston systems).....	"	H.	"	10
Prince st.....	At Arborway (conn. bet. Park Dept. and Boston systems).....	"	H.	"	12
Roslindale ave....	Bet. Cornell st. and Bellevue ave.....	"	H.	"	240
Orange st.....	Off Cornell st.....	"	H.	"	41
Edgemont st.....	" South st.....	"	H.	"	346
Millet st.....	Bet. Faxon and Harvard sts.....	Dor.	H.	"	62
Endleigh st.....	From Savin Hill ave.....	"	L.	"	246
Clapp place.....	Bet. Boston and Roseclair sts.....	"	L.	"	133
Beaumont st.....	Opp. East line of Berkshire st.....	"	H.	"	3
Pierce ave.....	Bet. Newhall and Adams sts.....	"	H.	"	265
Boutwell ave.....	" Frost ave. and Train st.....	"	H.	"	298
Elder st.....	Off Columbia rd.....	"	L.	"	57
Lithgow st.....	Bet. Talbot ave. and Washington st....	"	H.	"	529
Melville ave.....	" Waldeck st. and Wellesley pk.....	"	H.	"	202
Huntoon st.....	" Medway and Butler sts.....	"	H.	"	109
Fabyan st.....	" Blue Hill ave. and Harvard st.....	"	H.	"	505
Chester st.....	East from Rockway st.....	"	H.	"	69
Browning ave.....	Off Bernard st.....	"	H.	"	97
Penhallow st.....	Bet. Melville ave. and Mather sts.....	"	L.	"	224
Newman st.....	At Dorchester st.....	S. B.	L.	"	30
Alger st.....	" " "	"	L.	"	12
Boston pl.....	" " "	"	L.	"	35
Maverick st.....	Bet. Jeffries st. and Boston Harbor....	E. B.	L.	"	178
	Total 8-inch.....	.....	.....	.....	5,921

Statement of Main Pipe Extended.—*Concluded.*

LOCATION.		District.	High or Low Service.	Size.	Length.
Court st. (no. side)	Bet. Franklin ave. and Cornhill.....	C. P.	H.	6-in.	56
Ulmer st.....	“ Arklow and Centre sts.....	Rox.	H.	“	12
Richards st.....	“ Montview and Centre sts.....	W. R.	H.	“	4
Canauha terrace....	Off Seymour st.....	“	H.	“	134
Train st.....	Bet. King and Mill sts.....	Dor.	H.	“	33
Hillside terrace...	At Fuller st.....	“	H.	“	81
Westmoreland st..	Opp. East line of Berkshire st.....	“	H.	“	2
Samoset st.....	Bet. Centre and Rosemont sts.....	“	H.	“	220
Minot st.....	“ Frederika and Carruth sts.....	“	H.	“	156
Frost ave.....	At Boutwell ave ...	“	H.	“	87
Clement pk.....	“ Centre st.....	“	H.	“	14
Nixon st.....	“ “ “	“	H.	“	8
Tileston ave.....	“ Blue Hill ave.....	“	H.	“	230
Drayton ave.....	Bet. Bodwell and Quincy sts..	“	H.	“	160
	Total 6-inch.....				1,197
Chelsea st.....	Bet. Scott's ct. and Medford st.....	Chsn.	L.	3-in.	144
Lime alley.....	Bet. Charter and Commercial sts	C. P.	L.	2-in.	74
Atlantic ave.....	“ T and Commercial wharves.....	“	L.	“	604
	Total 2-inch.....				678

Statement of Location, Size, and Number of Feet of Main Pipe Relaid during the Year ending January 31, 1905, and the Former Size of Same.

LOCATION.		District.	High or Low Service.	Size.	Length.	Former Size.
Commonwealth ave.....	At Charlesgate east (west side)....	Rox.	L.	48-in.	52	48-in.
Commonwealth ave.....	“ “ “ ...	“	L.	“	71	“
	Total 48-inch.....				123	

Statement of Main Pipe Relaid.—Continued.

LOCATION.		District.	High or Low Service.	Size.	Length.	Former Size.
Essex st.....	Bet. Washington and Kingston sts.	C. P.	L.	36-in.	743	24-in.
Congress st.....	“ Milk and Franklin sts.....	“	L.	“	244	“
Franklin st.....	“ Congress and Devonshire sts..	“	L.	“	425	“
Kingston st.....	“ Essex and Summer sts.....	“	L.	“	644	“
Otis st.....	“ Summer and Devonshire sts...	“	L.	“	344	“
Commonwealth ave.....	At Charlesgate east (west side)...	Rox.	L.	“	14	48-in.
Commonwealth ave.....	“ “ “ “	“	L.	“	104	“
Total 36-inch.....					2,518	
Kneeland st.....	At Washington st.....	C. P.	L.	20-in.	6	16-in.
Washington st....	“ junction of Elliot st. (no. side).	“	L.	“	43	20-in.
Dorchester st.....	Bet. Vale and Jenkins sts.....	S. B.	L.	“	595	“
Total 20-inch					644	
State st.....	Bet. Chatham row and Commercial st.....	C. P.	L.	16-in.	114	16-in.
Court st.....	Bet. Court sq. east and Washington st.....	“	H.	“	237	16 & 6 in.
Washington st....	Bet. Elliot and Harvard sts.....	“	L.	“	65	16-in.
Washington st. (across).....	“ Boylston and Essex sts.....	“	H.	“	133	8-in.
Kneeland st.....	At Washington st.....	“	L.	“	8	16-in.
Neponset ave.....	Bet. Taylor st. and bridge.....	Dor.	H.	“	4	“
Congress st.....	“ Farnsworth and B sts.....	S. B.	L.	“	18	“
Dorchester st.....	“ Vale and Jenkins st.....	“	H.	“	539	“
Total 16-inch.....					1,118	
Hudson st.....	At Beach st.....	C. P.	L.	12-in.	33	6-in.
Tyler st.....	“ “	“	L.	“	22	“
Harrison ave.....	Across Beach st.....	“	L.	“	44	“
Northampton st..	Bet. Columbus ave. and Tremont st.....	“	L.	“	577	“
South st.....	At north side of Kneeland st.....	“	L.	“	14	12-in.
Essex st.....	Bet. Oxford and Kingston sts.....	“	L.	“	315	8-in.
Oxford st.....	At Essex st.....	“	L.	“	26	6-in.
Essex st.....	“ Chauncy st.....	“	L.	“	35	8-in.
Summer st.....	“ “ “	“	H.	“	3	12-in.
Carried forward					1,069	

Statement of Main Pipe Relaid.—*Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.	Former Size.
	<i>Brought forward</i>				1,069	
Franklin st.....	Bet. Federal and Devonshire sts..	C. P.	H.	12-in.	50	12-in.
Federal st.....	At Franklin st.....	"	L.	"	54	8-in.
"	Bet. Franklin and Milk sts.....	"	L.	"	79	"
Bennet st.....	Bet. Harrison ave. and Washington st.....	"	L.	"	284	6-in.
State st.....	At McKinley sq.....	"	H.	"	20	12-in.
Columbus ave....	" Ferdinand st.....	"	L.	"	8	"
Bristol st.....	Bet. Albany st. and Harrison ave.	"	L.	"	633	6-in.
Washington st...	At Beach st.....	"	H.	"	20	12-in.
Beach st.....	" Washington st.....	"	H.	"	35	"
"	" " "	"	L.	"	33	"
Washington st. ..	Bet. Essex and Beach sts	"	L.	"	204	"
Court st.....	Bet. Court sq. east and Washington st.....	"	H.	"	5	6-in.
Eliot st.....	At Washington st.....	"	L.	"	39	"
Washington st....	Bet. Beach and Kneeland sts.....	"	L.	"	228	12-in.
Federal st.....	" Franklin and Milk sts.....	"	L.	"	238	8-in.
Washington st....	" Beach and Boylston sts.....	"	H.	"	131	12-in.
Boylston st.....	Bet. Massachusetts ave. and St. Cecilia st.....	Rox.	L.	"	272	8-in.
St. Cecilia st.....	At Boylston st.....	"	L.	"	22	"
Fenway	Bet. Westland and Huntington entrances.....	"	L.	"	33	12-in.
Boylston rd.....	Bet. Rumford rd. and Charlesgate east... ..	"	L.	"	45	6-in.
Charlesgate east..	Across Commonwealth ave.....	"	L.	"	132	"
Vila st.....	Bet. Francis st. and Longwood ave.....	"	L.	"	143	6 & 8-in.
St. Alphonsus st..	Bet. Tremont and Alleghany sts..	"	L.	"	174	12-in.
Charlesgate east..	Bet. Beacon st. and Commonwealth ave.....	"	L.	"	432	8-in.
Rumford rd.....	Bet. Westland entrance and Boylston st.....	"	L.	"	41	12-in.
Charlesgate east..	Bet. Commonwealth ave. and Newbury st.....	"	L.	"	256	8-in.
Hyde Park ave....	Bet. Mt. Hope and Ashland sts...	W. R.	H.	"	1,459	12-in.
Blakemore st.....	At Hyde Park ave.....	"	H.	"	12	"
Centre st.....	Bet. Richards and Park sts.....	"	H.	"	5	"
Wexford st.....	" Hillside ave. and Market st...	Bri.	L.	"	1,355	8-in.
	<i>Carried forward</i>				7,511	

Statement of Main Pipe Relaid. — *Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.	Former Size.
<i>Brought forward</i>					7,511	
Washington st....	Bet. Fairmount and Codman sts...	Dor.	H.	12-in.	23	12-in.
Mill st.....	" Train and Adams sts.....	"	H.	"	262	6 & 12-in.
"	At Neponset ave.....	"	L.	"	8	12-in.
Centre st.....	Bet. Centre ave. and Melbourne st.	"	H.	"	428	6-in.
" ave.....	" Dorchester ave and Centre st.	"	H.	"	491	"
Neponset ave.....	Bet. Taylor st. and Neponset bridge	"	H.	"	191	"
"	Bet. Taylor st. and Neponset bridge	"	H.	"	99	"
Ashmont st.....	At Adams st.....	"	H.	"	14	12-in.
A st.....	Bet. Melcher and Congress sts....	S. B.	L.	"	10	"
Private way off A st.....	" " "	"	L.	"	4	"
Pittsburgh st.....	At Congress st.....	"	L.	"	14	10-in.
E st.....	Bet. Seventh and Eighth sts.....	"	L.	"	406	6-in.
C st.....	Across Broadway.....	"	L.	"	82	"
M st.	Bet. First and Third sts.....	"	L.	"	618	"
Dorchester st.....	" Vale and Jenkins sts.....	"	L.	"	553	12-in.
Congress st.....	" Farnsworth and B sts.....	"	L.	"	8	"
Total 12-inch... ..					10,722	
Oxford st.....	At Beach st.....	C. P.	L.	10-in.	47	6-in.
Edinboro st.....	" "	"	L.	"	44	"
Utica st.....	" "	"	L.	"	68	"
"	South of Harvard st.....	"	L.	"	4	10-in.
No. Anderson st...	At Fruit st....	"	L.	"	25	6-in.
Fruit st.....	Bet. Charles and Blossom sts.....	"	L.	"	983	"
Fairfield st.....	At Boylston st..	"	L.	"	60	"
Emerald st.....	Bet. Dover and Castle sts.....	"	L.	"	911	"
Utica st.....	At Kneeland st.....	"	L.	"	12	"
North Bennet st..	Bet. Salem and Hanover sts.....	"	L.	"	575	"
East Springfield st. (City Hospital grounds).....	" Harrison ave. and Albany st.	"	L.	"	699	"
Edinboro st.....	At Essex st.....	"	L.	"	30	"
Ash st.....	" Bennet st.....	"	L.	"	19	"
Church st.....	" Columbus ave.....	"	L.	"	33	"
<i>Carried forward</i>					3,510	

Statement of Main Pipe Relaid. — *Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.	Former Size.
	<i>Brought forward</i>				3,510	
Middlesex st.....	At Castle st.....	C. P.	L.	10-in.	159	6-in.
Ferdinand st.....	" Columbus ave.....	"	L.	"	4	10-in.
First st.....	Bet. Granite and A sts.....	S. B.	L.	"	252	6-in.
Ninth st.....	At Dorchester st. (west side).....	"	L.	"	14	10-in.
Eighth st.....	" " "	"	L.	"	58	6-in.
Broadway.....	Bet. B and C sts.....	"	L.	"	575	"
Whittier st	Across Hampshire st.....	Rox.	L.	"	57	"
Mt. Hope st.....	At Hyde Park ave.....	W. R.	H.	"	27	8-in.
	Total 10-inch.....				<u>4,656</u>	
Knapp st.....	At Beach st	C. P.	L.	8-in.	27	6-in.
Albion st.....	Bet. Paul and Dover sts.....	"	L.	"	778	"
Hudson st.....	At Curve st.....	"	L.	"	90	"
Boylston pl.....	Off Boylston st.....	"	L.	"	334	"
North Grove st...	At Fruit st.....	"	L.	"	24	"
Paul st.....	" Emerald st.....	"	L.	"	12	"
Court sq. (west side).....	Bet. Court st. and City Hall.....	"	H.	"	269	4-in.
Barton ct.....	" Brighton and Barton sts.....	"	L.	"	150	6-in.
Oliver pl.....	At Essex st.....	"	L.	"	21	4-in.
Tennyson st.....	" Columbus ave.....	"	L.	"	36	6-in.
Grenville st.....	" "	"	L.	"	39	"
Federal st.....	Bet. Franklin and Milk sts	"	L.	"	8	8-in.
Charlesgate east...	Bet. Commonwealth ave. and Newbury st.....	Rox.	L.	"	285	6 and 8-in.
Boylston st.....	Bet. Massachusetts ave. and St. Cecilia st.....	"	L.	"	6	8-in.
St. Cecilia st.....	At Boylston st.....	"	L.	"	6	"
Posen st.....	Bet. Arklow and Ulmer sts.....	"	H.	"	64	6-in.
Marlboro st.....	At Charlesgate east.....	"	L.	"	25	8-in.
Charlesgate east...	Across Commonwealth ave.....	"	L.	"	8	6-in.
Commonw'lth ave. (north side).....	At Charlesgate east.....	"	L.	"	18	"
Commonw'lth ave. (south side).....	" " "	"	L.	"	22	"
Hampshire st.....	Bet. Whittier and Ruggles sts.....	"	L.	"	368	8-in.
Charlesgate east...	" Ipswich st. and Boylston rd...	"	L.	"	516	6-in.
	<i>Carried forward</i>				<u>3,106</u>	

Statement of Main Pipe Relaid. — *Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.	Former Size.
	<i>Brought forward</i>				3,106	
Train st.....	At Mill st.....	Dor.	H.	8-in.	29	6-in.
Tileston pl.....	Bet. Neponset ave. and Houghton st.....	"	H.	"	276	4 and 6-in.
Huntoon st.....	Bet. Medway and Butler sts.....	"	H.	"	10	8-in.
Lorenzo st.....	" Walnut and Wood sts.....	"	H.	"	462	6-in.
Boutwell ave.....	" Frost ave. and Train st....	"	H.	"	6	"
North Munroe ter.	At Neponset ave.....	"	H.	"	14	"
Pierce ave.....	" Adams st.....	"	H.	"	19	8-in.
Oak ave.....	" "	"	H.	"	21	6-in.
Browning ave....	" Bernard st.....	"	H.	"	43	"
Ninth st.....	" Dorchester st.....	S. B.	L.	"	20	"
Middle st.....	" "	"	L.	"	59	"
Woodward st.....	" "	"	L.	"	61	"
Eighth st.....	Across E st.....	"	L.	"	48	"
Baxter st.....	At E st.....	"	L.	"	20	"
Boston pl.....	" Dorchester st.....	"	L.	"	64	"
Jenkins st.....	" "	"	L.	"	27	"
Newman st.....	" "	"	L.	"	40	8-in.
	Total 8-inch.....				4,325	
North Grove st...	At Fruit st.....	C. P.	L.	6-in.	7	6-in.
North Anderson st.	" "	"	L.	"	7	"
Edinboro st.....	" Essex st.....	"	L.	"	5	"
Bennett st.....	Bet. Harrison ave. and Washington st.....	"	L.	"	68	"
Northampton st..	Bet. Columbus ave. and Tremont st.....	"	L.	"	6	"
La Grange st.....	At Washington st.....	"	L.	"	16	"
Kingston st.....	South of Bedford st.....	"	L.	"	24	"
Commonwealth ave.....	At Charlesgate east (west side)...	Rox.	L.	"	12	"
Walpole st.....	Bet. Columbus ave. and Grinnell st.....	"	L.	"	198	3-in.
Grinnell st.....	Bet. Walpole and Sarsfield sts....	"	L.	"	214	"
Sarsfield st.....	At Grinnell st.....	"	L.	"	12	"
Arklow st.....	" Ulmer st.....	"	H.	"	16	6-in.
Ulmer st.....	" North side of Arklow st.....	"	H.	"	16	"
	<i>Carried forward</i>				601	

Statement of Main Pipe Relaid. — *Concluded.*

LOCATION.		District.	High or Low Service.	Size.	Length.	Former Size.
	<i>Brought forward</i> .....	.....	.....	.....	601	
Charlesgate east...	Bet. Newbury st. and B. & A. R.R.	C. P.	L.	6-in.	44	6-in.
“ “	“ “ “ “ “	“	L.	“	36	“
Newbury st.	At Charlesgate east.....	“	L.	“	24	“
Woodland rd.....	500 feet from Moss Hill rd.	W. R.	H.	“	5	12-in.
Centre st... ..	At Dorchester ave.....	Dor.	H.	“	17	6-in.
Vinson st.....	“ Park st.....	“	H.	“	35	“
Samoset st.....	“ Centre st.....	“	H.	“	2	“
Centre st.....	Bet. Centre and Dorchester aves..	“	H.	“	36	“
Colton st.....	“ First and Second sts.....	S. B.	L.	“	212	4-in.
K st.....	“ Ninth st. and Columbla rd....	“	L.	“	8	6-in.
Tuckerman st.....	At Dorchester st.....	“	L.	“	147	4-in.
Baxter st.....	“ E st.....	“	L.	“	8	6-in.
Broadway.....	Bet. B and C sts.....	“	L.	“	11	“
Moon Island	Bet. Sewerage gate-house and sea wall	B. H.	H.	“	42	“
	Total 6-inch.....	.....	.....	.....	1,228	
Boylston pl.....	Off Boylston st.....	C. P.	L.	4-in.	5	4 in.
Rockville pk.....	“ Warren st.....	Rox.	H.	“	4	“
Fenway	Bet. Westland and Huntington entrances.....	“	L.	“	19	4 & 12-in.
	Total 4-inch.....	.....	.....	.....	28	
Hayward pl.....	Bet. Washington st. and Harrison ave.	C. P.	H.	2-in.	55	8-in.

Statement of Private Pipe Laid and Abandoned during the Year ending January 31, 1905.

(Not included in Boston Water Department System.)

For Whom.	Where.	District.	High or Low Service.	Size.	Length.
	LAI D.				
Metropolitan Steamship Co.....	Union Wharf.....	C. P.	L.	6 in.	253
	ABANDONED.				
Metropolitan Steamship Co.....	Union Wharf.....	C. P.	L.	6 in.	275

Statement of Main Pipe Raised, Lowered, and Moved Laterally.

NOTE:—This work was occasioned by the operation of corporations, contractors and others, change in street grades and sewer construction, also by department work.

LOCATION.		District.	Size.	High or Low Service.	Length.	Raised, Lowered, or Moved.
Adams st... ..	At Ashmont st.....	Dor.	20-in.	H.	24	Lowered.
State st.....	At Commercial st.....	C. P.	16-in.	L.	50	Raised.
Bedford st.....	“ Kingston st.....	“	“	L.	16	Lowered.
	Total 16-inch.....				66	
Summer st.....	At Kingston st.....	C. P.	12-in.	L.	24	Lowered.
Bedford st.....	“ “ “	“	“	H.	12	Raised.
Milk st.....	At Congress st. (at connection bet. 24 in. and 16-in.)...	“	“	H.	10	Moved.
Water st.....	At Congress st.....	“	“	L.	8	“
Harvard st.....	“ Harrison ave.....	“	“	L.	18	Raised.
Franklin st.....	Bet. Federal and Devonshire sts.....	“	“	H.	165	Moved.
Summer st.....	At Devonshire st.....	“	“	H.	10	“
Franklin st	“ Federal st.....	“	“	L.	24	Lowered.
Harvard st... ..	“ Washington st.....	“	“	L.	47	Raised.
Berkeley st	East of railroad bridge	“	“	L.	5	Moved.
Summer st.....	At Kingston st.....	“	“	H.	24	Lowered.
Ipswich st.....	Bet. Boylston st. and Park Riding School	Rox.	“	L.	30	Raised.
Hyde Park ave...	Bet. Walk Hill and Patten sts.....	W. R.	“	H.	287	Lowered.
“ “ “	Bet. Mt. Hope and Blakemore sts	“	“	H.	283	Raised.
Blakemore st.....	At Hyde Park ave.....	“	“	H.	65	“
Walk Hill st.....	“ “ “ “	“	“	H.	8	Moved.
Lauriat ave.....	“ Lucerne st.....	Dor.	“	H.	7	Raised.
Freeport st.....	“ Preston st.....	“	“	L.	6	Lowered.
Normandy st.....	“ Devon st.....	“	“	H.	6	Raised.
Neponset ave.....	“ Mill st.....	“	“	H.	16	Lowered.
Ashmont st.....	“ Adams st.....	“	“	H.	7	“
	Total 12-inch.....				1,062	
Essex st.....	At junction Chauncy st. and Harrison ave.....	C. P.	10-in.	H.	11	Raised.
Mt. Hope st.....	At Hyde Park ave.....	W. R.	“	H.	90	“
	Total 10-inch.....				101	

Statement of Main Pipe Raised, Etc.— *Concluded.*

LOCATION.		District.	Size.	High or Low Service.	Length.	Raised, Lowered or Moved.
Portland st.....	At Merrimac st.....	C. P.	8-in.	L.	8	Moved.
* Essex st..	“ Chauncy st.....	“	“	L.	33	Lowered.
Congress st.....	“ Franklin st.....	“	“	L.	16	Raised.
Devonshire st....	“ “ “	“	“	L.	13	Lowered.
Otis st.....	“ Summer st.....	“	“	L.	24	Raised.
Congress st. (P. O. square)	“ north side of Milk st....	“	“	L.	15	Moved.
Boylston st.....	“ Washington st.....	“	“	H.	20	“
Day st.....	“ Round Hill st.....	Rox.	“	H.	5	Lowered.
Charlesgate east ..	“ Commonwealth ave.....	“	“	L.	20	Raised.
Patten st.....	“ Hyde Park ave.....	W. R.	“	H.	96	Lowered.
Wyvern st.	“ “ “ “	“	“	H.	6	Raised.
Bearse ave	“ Medway st.....	Dor.	“	H.	8	“
Newman st.....	Bet. Dorchester and Champ- ney sts.....	S. B.	“	L.	135	Lowered.
	Total 8-inch.....				399	
Harrison ave.....	At south side of Essex st....	C. P.	6-in.	L.	10	Raised.
Chauncy st.....	“ north “ “ “ “	“	“	H.	10	“
Lovering pl.....	“ Harrison ave.....	“	“	L.	8	Moved.
“ “	Bet. Harrison ave. and Wash- ington st.....	“	“	L.	8	“
Otis st.....	At Summer st.	“	“	H.	20	Raised.
Tupelo st.....	“ Savin st.....	Rox.	“	H.	12	Lowered.
Conant st.....	“ Whitney st.....	“	“	L.	12	Moved.
Day st.....	Opp. Grotto glen.....	“	“	H.	8	Raised.
“ “	At Mark st.....	“	“	H.	6	“
Scotia st.....	Bet. St. Cecilia and Dalton sts.....	“	“	L.	32	Moved.
Burt st.....	At Washington st.....	Dor.	“	H.	15	“
Radford lane.....	“ Carruth st.....	“	“	H.	9	Lowered.
Willow ct.....	Off Boston st.....	“	“	L.	47	Raised.
K st.....	Bet. Ninth st. and Columbia rd	S. B.	“	L.	80	Lowered.
Bennington st....	Near Walley st.....	E. B.	“	L.	7	Moved.
	Total 6-inch.....				284	

*The size of pipe increased. See statement of main pipe relaid.

NOTE.—In addition to the foregoing there were 256 feet 6-inch private main lowered for the United States government at the Fort Strong parade grounds, Long Island.

**Statement of Location, Size, and Number of Feet of Main Pipe
Abandoned during the Year Ending January 31, 1905.**

LOCATION.		District.	High or Low Service.	Size.	Length.
Commonwealth ave..	Across Charlesgate east	Rox.	L.	48-in.	40
“ “ ..	At Charlesgate east (west side)	“	L.	“	50
“ “ ..	“ “ “ “	“	L.	“	210
	Total 48-inch.....				300
Washington st.....	Junction of Eliot st. (north side).....	C. P.	L.	20-in.	43
Dorchester st.....	Bet. Vale and Jenkins sts.....	S. B.	L.	“	540
	Total 20-inch.....				583
State st.....	Bet. Chatham row and Commercial st.	C. P.	L.	16-in.	120
Washington st.....	“ Eliot and Harvard sts.....	“	L.	“	65
Kneeland st.....	At Washington st.....	“	L.	“	14
Neponset ave.....	Bet. Taylor st. and Neponset bridge..	Dor.	H.	“	4
Congress st.....	“ Farnsworth and B sts.....	S. B.	L.	“	18
Dorchester st.....	“ Vale and Jenkins sts.....	“	H.	“	40
	Total 16-inch.....				261
Lehigh st.....	At Broadway extension bridge	C. P.	L.	12-in.	304
South st.....	“ north side of Kneeland st.....	“	L.	“	12
Summer st.....	“ Chauncy st.....	“	H.	“	3
Franklin st.....	Bet. Federal and Devonshire sts.....	“	H.	“	50
State st.....	At McKinley sq.....	“	H.	“	24
Columbus ave.....	“ Ferdinand st.....	“	L.	“	8
Washington st.....	“ Beach st.....	“	H.	“	20
Beach st.....	“ Washington st.....	“	L.	“	33
“	“ “	“	H.	“	35
Washington st.....	Bet. Essex and Beach sts.....	“	L.	“	204
“	“ Beach and Kneeland sts.....	“	L.	“	228
“	At junction of Eliot st. (north side)..	“	L.	“	36
Rumford rd.....	Bet. Westland entrance and Boylston st.....	Rox.	L.	“	310
Fenway.....	Bet. Westland and Huntington entrances	“	L.	“	40
Ruggles st.....	“ Hampshire and Haskins sts.....	“	L.	“	390
Woodland rd.....	500 ft. from Moss Hill rd.....	W. R.	H.	“	5
Centre st.....	Bet. Richards and Park sts.....	“	H.	“	5
	<i>Carried forward</i>				1,707

Statement of Main Pipe Abandoned.— *Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.
	<i>Brought forward</i>				1,707
Blakemore st.....	At Hyde Park ave.....	W. R.	H.	12-in.	12
Washington st.....	Bet. Fairmount and Codman sts.....	Dor.	H.	"	23
Mill st.....	" Train and Adams sts.....	"	H.	"	12
"	At Neponset av.....	"	L.	"	8
"	" " "	"	H.	"	50
Harvard st.....	" railroad bridge.....	"	H.	"	11
Ashmont st.....	" Adams st.....	"	H.	"	12
Harvard st.....	Bet. Standish and Kilton sts.....	"	H.	"	70
Norfolk st.....	" Willowwood and Corbet sts.....	"	H.	"	144
A st.....	" Melcher and Congress sts.....	S. B.	L.	"	10
Private way off A st.	" " " " "	"	L.	"	4
Congress st.....	" Farnsworth and B sts.....	"	L.	"	8
Dorchester st.....	" Vale and Jenkins sts.....	"	L.	"	25
"	" " " " "	"	L.	"	528
Brooks st.....	At White st.....	E. B.	L.	"	46
Prescott st.....	East and west of railroad tracks.....	"	L.	"	496
	Total 12-inch.....				<u>3,166</u>
Utica st.....	South of Harvard st.....	C. P.	L.	10-in.	4
Ferdinand st.....	At Columbus ave.....	"	L.	"	4
Walpole st.....	Bet. Columbus ave. and Grinnell st...	Rox.	L.	"	7
Pittsburgh st.....	At Congress st.....	S. B.	L.	"	9
Ninth st.....	" Dorchester street (west side).....	"	L.	"	14
Chelsea st.....	Bet. Vine and Bainbridge streets (entering navy yard).....	Chsn.	L.	"	39
"	At Adams st. (entering navy yard)...	"	L.	"	10
	Total 10-inch.....				<u>87</u>
Essex st.....	Bet. Oxford and Kingston sts.....	C. P.	L.	8-in.	315
"	At Chauncy st.....	"	L.	"	33
Federal st.....	" Franklin st.....	"	L.	"	54
"	Bet. Franklin and Milk sts.....	"	L.	"	79
Hayward pl.....	" Washington and Harrison ave....	"	H.	"	71
Federal st.....	" Franklin and Milk sts.....	"	L.	"	246
Boylston st.....	Bet. Massachusetts ave. and St. Cecilia st.....	Rox.	L.	"	278
	<i>Carried forward</i>				<u>1,076</u>

Statement of Main Pipe Abandoned. — *Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.
	<i>Brought forward</i>				1,076
Hampshire st.....	Bet. Whittier and Ruggles sts.....	Rox.	L.	8-in.	280
Charlesgate east.....	Bet. Commonwealth ave. and Newbury st.....	"	L.	"	256
St. Cecilia st.....	At Boylston st.....	"	L.	"	28
Hampshire st.....	Bet. Whittier and Ruggles sts.....	"	L.	"	20
Charlesgate east.....	Bet. Commonwealth ave. and Beacon st.....	"	L.	"	182
Marlboro st.....	At Charlesgate east.....	"	L.	"	25
Vila st.....	Bet. Francis st. and Longwood ave...	"	L.	"	18
Charlesgate east.....	Bet. Commonwealth ave. and Newbury st.....	"	L.	"	285
Mt. Hope st.....	At Hyde Park ave.....	W. R.	H.	"	27
Huntoon st.....	Bet. Medway and Butler sts.....	Dor.	H.	"	10
Pierce ave.....	At Adams st	"	H.	"	22
Adams st.....	Bet. Ashmont and Beaumont sts.....	"	H.	"	840
"	At Ashmont st.....	"	H.	"	33
Wormwood st.....	" A st.....	S. B.	L.	"	7
Newman st.....	" Dorchester st.....	"	L.	"	40
Wexford st.....	Bet. Hillside ave. and Market st.....	Bri.	L.	"	1,355
	Total 8-inch.....				<u>4,504</u>
Hudson st.....	Near Curve st.....	C. P.	L.	6-in.	18
Court st.....	Bet. Franklin ave. and Washington st.	"	H.	"	205
Knapp st.....	At Beach st.....	"	L.	"	27
Tyler st.....	" "	"	L.	"	22
Hudson st.....	" "	"	L.	"	33
Oxford st.....	" "	"	L.	"	47
Harrison ave.....	Across Beach st.....	"	L.	"	44
Edinboro st.....	At Beach st.....	"	L.	"	44
Utica st.....	" "	"	L.	"	68
Albion st.....	Bet. Paul and Dover sts.....	"	L.	"	778
Hudson st.....	At Curve st.....	"	L.	"	72
Boylston pl.....	Off Boylston st.....	"	L.	"	334
Utica st.....	South of Harvard st.....	"	L.	"	296
North Grove st.....	At Fruit st.....	"	L.	"	31
North Anderson st...	" "	"	L.	"	32
	<i>Carried forward</i>				<u>2,051</u>

Statement of Main Pipe Abandoned.—Continued.

LOCATION.		District.	High or Low Service.	Size.	Length.
	<i>Brought forward</i> .....	.....	.....	.....	2,051
Fruit st.....	Bet. Charles and Blossom sts.....	C. P.	L.	6-in.	983
Fairfield st.....	At Boylston st.....	"	L.	"	60
Emerald st	Bet. Dover and Castle sts.....	"	L.	"	911
Paul st.....	At Emerald st.....	"	L.	"	12
Bennet st.....	Bet. Washington and Ash sts.....	"	L.	"	188
Barton ct.....	" Brighton and Barton sts.....	"	L.	"	150
Utica st.....	At Kneeland st.....	"	L.	"	12
North Bennet st.....	Bet. Salem and Hanover st.....	"	L.	"	575
East Springfield st. (City Hospital grounds).....	" Harrison ave. and Albany st.....	"	L.	"	690
Edinboro st.....	At Essex st.....	"	L.	"	35
Oxford st.....	" "	"	L.	"	26
Bennet st.....	Bet. Harrison ave. and Washington st.	"	L.	"	274
Ash st.....	At Bennet st.....	"	L.	"	19
Church st.....	" Columbus ave.....	"	L.	"	33
Teunyson st.....	" "	"	L.	"	36
Middlesex st.....	" Castle st.....	"	L.	"	159
Northampton st.....	Bet. Columbus ave. and Tremont st...	"	L.	"	583
Grenville pl.....	At Columbus ave.....	"	L.	"	39
Bristol st.....	Bet. Albany st. and Harrison ave.....	"	L.	"	633
Eliot st.....	At Washington st.....	"	L.	"	30
La Grange st.....	" "	"	L.	"	12
Kingston st.....	South of Bedford st.....	"	L.	"	24
Charlesgate east.....	At Boylston st.....	Rox.	L.	"	6
Deerfield st.....	Bet. Bay State rd. and Charles river..	"	L.	"	16
Charlesgate east.....	South from Newbury st.....	"	L.	"	65
Commonwealth ave..	At Charlesgate east (west side).....	"	L.	"	12
Hampshire st.....	Bet. Whittier and Ruggles st.....	"	L.	"	40
Charlesgate east.....	Bet. Commonwealth ave. and Newbury st.....	"	L.	"	18
Commonwealth ave. (south side).....	At Charlesgate east.....	"	L.	"	12
Newbury st.....	" "	"	L.	"	12
Whittier st.....	Across Hampshire st.....	"	L.	"	57
Charlesgate east.....	Bet. Ipswich st. and Boylston rd.	"	L.	"	90
	<i>Carried forward</i>.....	.....	.....	.....	7,863

Statement of Main Pipe Abandoned. — *Continued.*

LOCATION.		District.	High or Low Service.	Size.	Length.
	<i>Brought forward</i> .....	.....	.....	.....	7,863
Boylston rd.....	Bet. Rumford rd. and Charlesgate east.....	Rox.	L.	6-in.	45
Posen st.....	Bet. Arklow and Ulmer sts.....	"	H.	"	64
Arklow st.....	At Ulmer st.....	"	H.	"	16
Ulmer st.....	" north side of Arklow st.....	"	H.	"	16
Charlesgate east.....	Across Commonwealth ave.....	"	L.	"	137
Vila st.....	Bet. Francis st. and Longwood ave...	"	L.	"	125
Newbury st.....	At Charlesgate east.....	"	L.	"	12
Cabot st.....	At north and south sides of Ruggles st.....	"	L.	"	45
Warwick st.....	At Ruggles st	"	L.	"	30
Tappan st.....	" No. 127.....	W. R.	H.	"	14
Train st....	" Mill st.....	Dor.	H.	"	29
Mill st.....	Bet. Train and Adams sts.....	"	H.	"	250
Centre st.....	At Dorchester ave.....	"	H.	"	15
Lorenzo st.....	Bet. Walnut and Wood sts.....	"	H.	"	462
Boutwell ave.....	" Frost ave. and Train st.....	"	H.	"	6
Vinson st.....	At Park st.....	"	H.	"	40
Tileston pl.....	Bet. Neponset ave. and Houghton st..	"	H.	"	42
Centre st.....	" Centre ave. and Melbourne st....	"	H.	"	428
Samoset st.....	At Centre st.....	"	H.	"	14
Centre st.....	Bet. Centre and Dorchester aves.....	"	H.	"	36
" ave.....	" Centre st. and Dorchester ave....	"	H.	"	491
Neponset ave.....	" Taylor st. and Neponset bridge..	"	H.	"	191
No. Munroeter.....	At Neponset ave.....	"	H.	"	16
Oak ave.....	" Adams st.....	"	H.	"	24
Neponset ave.....	Bet. Taylor st. and Neponset bridge..	"	H.	"	99
Browning ave.....	At Bernard st.....	"	H.	"	43
First st.....	Bet. Granite and A sts.....	S. B.	L.	"	252
K st.....	" Ninth st. and Columbia rd.....	"	L.	"	7
Eighth st.....	At Dorchester st. (west side).....	"	L.	"	58
Ninth st.....	" " (east side).....	"	L.	"	20
Middle st.....	" "	"	L.	"	59
Woodward st.....	" "	"	L.	"	61
E st.....	Bet. Seventh and Eighth sts.....	"	L.	"	406
	<i>Carried forward</i> .....	.....	.....	.....	11,416

Statement of Main Pipe Abandoned.—*Concluded.*

LOCATION.		District.	High or Low Service.	Size.	Length.
	<i>Brought forward</i>				11,416
Eighth st.....	Across E st.....	S. B.	L.	6-in.	48
Baxter st.....	At E st.....	"	L.	"	28
C st.....	Across Broadway.....	"	L.	"	82
Broadway.....	Bet. B and C sts.....	"	L.	"	586
Boston pl.....	At Dorchester st.....	"	L.	"	64
Jenkins st.....	" ".....	"	L.	"	27
M st.....	Bet. First and Third sts.....	"	L.	"	618
Sewall ct.....	At Arlington ave.....	Chsn.	L.	"	170
Brooks st.....	" West Eagle st.....	E. B.	L.	"	65
Moon Island.....	Bet. sewerage gate house and sea wall.	B. H.	H.	"	1,235
	Total 6-inch.....				<u>14,339</u>
Boylston pl.....	Off Boylston st.....	C. P.	L.	4-in.	5
Court sq. (west side).	Bet. Court st. and City Hall.....	"	H.	"	269
Oliver pl.....	At Essex st.....	"	L.	"	21
Rockville pk.....	Off Warren st.....	Rox.	H.	"	4
Fenway.....	Bet. Westland and Huntington entrances.....	"	L.	"	10
Tileston pl.....	Bet. Neponset ave. and Houghton st..	Dor.	H.	"	234
Colton st.....	" First and Second sts.....	S. B.	L.	"	212
Tuckerman st.....	At Dorchester st.....	"	L.	"	147
Sewall ct.....	" Arlington ave.....	Chsn.	L.	"	36
	Total 4-inch.....				<u>938</u>
Walpole st.....	Bet. Columbus ave. and Grinnell st..	Rox.	L.	3-in.	191
Grinnell st.....	" Walpole and Sarsfield sts.....	"	L.	"	214
Sarsfield st.....	At Grinnell st.....	"	L.	"	12
	Total 3-inch.....				<u>417</u>

Table showing Length of Distribution Mains Laid, Relaid and Abandoned during the Year 1904, and the Total Length of the Distribution System of the City of Boston January 31, 1905.

	DIAMETER OF MAINS IN INCHES.															Totals.	
	48	42	40	36	30	28	24	20	16	12	10	8	6	4	3		2
Total connected with system January 31, 1904.	33,671	16,813	23,104	39,984	87,505	244	79,751	93,578	191,319	1,150,341	124,295	579,583	1,345,596	87,949	7,102	4,188	3,865,023
Length laid and relaid during the year.....	123	.....	.....	3,173	874	.....	524	1,020	2,586	18,617	7,235	10,246	2,425	28	144	763	47,758
Length abandoned during the year.....	300	.....	.....	.....	.....	.....	.....	583	261	3,166	87	4,504	14,339	938	417	.....	24,595
Total connected with system January 31, 1905.....	33,494	16,813	23,104	43,157	88,379	244	80,275	94,015	193,644	1,165,792	131,443	585,325	1,333,682	87,039	6,829	4,951	3,888,186 or 736.4 miles

Statement of Hydrant, Blow-off and Reservoir Pipes January 31, 1905.

	DIAMETER IN INCHES.								Totals.
	16	12	10	9	8	6	4	3	
Total length connected with system January 31, 1904.....	474	6,596	105	2,448	1,515	40,276	6,632	3	58,049
Length laid and relaid during the year.....	.....	88	.....	.....	216	1,039	20	.....	1,363
Length abandoned during the year.....	.....	97	.....	.....	30	434	52	.....	613
Total length connected with system January 31, 1905.....	474	6,587	105	2,448	1,701	40,881	6,600	3	58,799

Main Gates Established and Abandoned during the Year, and Number in System January 31, 1905.

	DIAMETER IN INCHES.													Totals.
	48	40	36	30	24	20	16	12	10	8	6	4	3	
Total number in system January 31, 1904.....	1	5	29	48	65	68	347	2,288	369	1,545	4,139	532	10	9,446
Established during the year..	.....	.....	.....	* 2	3	2	10	73	35	49	20	1	1	196
Abandoned during the year.....	.....	.....	.....	.....	.....	.....	2	8	3	11	72	6	.....	102
Total number in system January 31, 1905.....	1	5	29	50	68	70	355	2,353	401	1,583	4,087	527	11	9,540

* Established one 6-inch by-pass on 30-inch gate, Washington street, north of Codman street, Dorchester.
 Established one 6-inch by-pass on 30-inch gate, Washington street, south of Codman street, Dorchester.

Private Gates.

	DIAMATER IN INCHES.			Totals.
	20	10	6	
Established during the year.....		1	.....	1
Abandoned during the year.....			1	1
Increase.....		1	1	0

Blow-off Gates.

	DIAMETER IN INCHES.				Totals.
	12	8	6	4	
Established during the year.....	2	.....	4	1	7
Abandoned during the year.....	1	.....	4	.....	5
Increase	1	.....	0	1	2

Hydrant Gates.

	DIAMETER.	Totals.
	6 inches.	
Total number in system January 31, 1904.....	8	8
Established during the year.....	.....	.....
Abandoned during the year.....	.....	.....
Total number in system January 31, 1905.....	8	8

Private Hydrant Gates.

	DIAMETER.	Totals.
	6 inches.	
Total number in system January 31, 1904.....	1	1
Established during the year.....	.....	.....
Abandoned during the year .....	.....	.....
Total number in system January 31, 1905.....	1	1

Hydrants Established and Abandoned during the Year.

	ESTABLISHED.						ABANDONED.					
	Lowry.	Boston Lowry.	Ordinary Post.	Bachelder Post.	Boston.	Totals.	Lowry.	Boston Lowry.	Ordinary Post.	Bachelder Post.	Boston.	Totals.
City Proper (Public).....	7	....	....	30	....	37	24	1	3	2	2	38
“ “ (Private).....	1	....	....	4	....	5	....	....	1	1	....	2
South Boston (Public).....	....	1	....	24	....	25	9	1	9	3	2	24
East Boston (Public).....	....	1	....	13	....	14	1	....	7	2	....	10
Roxbury (Public).....	2	1	....	25	....	28	11	1	5	1	....	18
“ (Private).....	....	1	....	3	....	4	....	....	....	....	....	....
Dorchester (Public).....	1	9	3	16	....	29	6	8	5	...	....	19
West Roxbury (Public).....	....	10	2	22	1	35	2	7	4	....	1	14
Brighton (Public).....	....	1	....	6	....	7	....	1	....	1	....	2
Charlestown (Public)....	....	....	....	4	....	4	....	....	2	....	....	2
Total number of Public....	10	23	5	140	1	179	53	19	35	9	11	127
Total number of Private and Suburban.....	1	1	....	7	....	9	....	....	1	1	....	2

**Total Number of Hydrants Connected with Distribution System
January 31, 1905.**

	Lowry.	Boston Lowry.	Ordinary Post.	Bachelor Post.	Boston.	Totals.
City Proper (Public)	633	47	258	401	126	1,465
“ “ (Private)	4	....	10	4	42	60
South Boston (Public).....	204	31	152	160	45	592
“ “ (Private).....	3	....	15	.....	28	46
East Boston (Public).....	125	27	189	61	7	409
“ “ (Private)	8	....	7	.....	25	40
Roxbury (Public).....	517	91	433	207	43	1,291
“ (Private)	2	1	.....	3	10	16
Dorchester (Public)	420	231	971	209	30	1,861
“ (Private).....	.....	1	4	1	4	10
West Roxbury (Public).....	108	238	643	81	29	1,099
“ “ (Private).....	.....	....	15	.....	1	16
Brighton (Public)	71	82	390	24	21	588
“ (Private).....	.....	....	7	.....	2	9
Charlestown (Public).....	171	36	37	63	2	309
“ (Private).....	14	1	36	.....	6	57
Deer Island (Private).....	.....	....	19	.....	....	19
Long Island (Private).....	.....	....	6	.....	....	6
Thompson's Island (Private) .....	.....	....	2	.....	....	2
Gallop's Island (Private) .....	.....	....	1	.....	1	2
Rainsford's Island (Private).....	.....	3	1	.....	1	5
Quincy .....	.....	1	11	.....	....	12
Brookline.....	.....	2	.....	.....	....	2
Total number of Public Hydrants	2,249	783	3,073	1,206	303	7,614
Total number of Private and Suburban Hydrants.....	31	9	134	8	120	302

Water Posts.**LOCATION OF WATER POSTS ESTABLISHED AND ABANDONED DURING THE YEAR.***Established.*

Bennington street, at No. 987, near sluice-box at Saratoga street, East Boston.

Bennington street, at No. 1229, near Belle Isle station, East Boston.

Fisher avenue, near corner of Parker street, Roxbury.

Haven street, near Blue Hill avenue, Dorchester.

Malvern street, corner Ashford street, Brighton.

Market street, opposite Waverly street, Brighton.

Robinwood avenue, north side, West Roxbury.

Sanford street, opposite No. 43, Dorchester.

Southampton street, 175 feet from Burnham street, Roxbury.

Summer street, opposite No. 300, South Boston.

West Selden street, corner Woodlawn avenue, Dorchester.

Whittier street, at Hampshire street, Roxbury.

Abandoned.

Ashford street, at No. 52, Brighton.

Hampshire street, at Whittier street, Roxbury.

Hazel street, at Rockview street, West Roxbury.

Howland street, at Elm Hill avenue, Roxbury.

Hyde Park avenue, at Neponset avenue, West Roxbury.

Southampton street, at Burnham street, Roxbury.

Western avenue, corner Market street, Brighton.

Number of Water Posts Connected with System January 31' 1905.

	Number connected with system January 31, 1904.	Established during the year.	Abandoned during the year.	Number connected with system January 31, 1905.
City Proper.....	77	.....	.....	77
Roxbury	81	3	3	81
West Roxbury.....	95	1	2	94
Brighton	54	2	2	54
Dorchester	107	3	.....	110
South Boston.....	39	1	.....	40
Charlestown.....	22	.....	.....	22
East Boston.....	42	2	.....	44
Totals	517	12	7	522

Fountains.

Style. Established during the Year.

F. Junction of Washington and River streets, Dorchester.

Number of Fountains in Service January 31, 1905.

DISTRICT.	Style A.	Style B.	Style C.	Style D.	Style E.	Style F.	Totals.
City Proper.....	11	4	8	.....	12	.....	35
Roxbury.....	9	3	2	.....	5	.....	19
West Roxbury.....	4	1	.....	1	2	.....	8
Brighton.....	5	.....	1	.....	.....	.....	6
Dorchester.....	.....	2	.....	1	.....	8	11
South Boston.....	3	1	3	.....	5	.....	12
Charlestown.....	1	3	.....	1	4	.....	9
East Boston.....	.....	4	3	.....	4	.....	11
Totals..	33	18	17	3	32	8	111

Style.

NOTE.

- A. Indicates fountains for man and beast, with automatic fixtures, for man and beast in warm weather, and a continuous flow of water for beasts in cold weather.
- B. Indicates fountains for beasts only. Continuous flow of water all the year.
- C. Indicates fountains for man only. Automatic fixtures. In service during warm weather only.
- D. Indicates fountains for man and beast. Automatic fixtures for both. In service during warm weather only.
- E. Indicates cold water fountains for man only. Automatic fixtures. In service during warm weather only.
- F. Indicates fountains for man and beast, with automatic fixtures for man in warm weather, and a continuous flow of water for beasts all the year.

Air Cocks.*Established.*

LOCATION.	District.	Diameter of Main.	High or Low Service.	Size of Air Cock.
Warren bridge, between Charlestown and City Proper.....	C. P.	30-in.	Low.	2-in.
Essex st., opposite No. 63.....	"	36-in.	"	"
Congress st., near Milk st.....	"	"	"	"
Kingston st., opposite No. 71.....	"	"	"	"
Devonshire st., 93 ft. south of Franklin st....	"	"	"	"
Otis st., opposite No. 38.....	"	"	"	"
Water st., at Post Office sq.....	"	24-in.	"	"
Water st., opposite No. 22....	"	"	"	"
Congress st., at Pittsburgh st.....	S. B.	16-in.	"	1½-in.
Dorchester st., at No. 246.....	"	20-in.	"	2-in.
Commonwealth ave., on bridge between Charlesgate east and Charlesgate west....	Rox.	36-in.	"	"
Codman st., at Washington st.....	Dor.	20-in.	High.	"
Washington st., at Codman st.....	"	30-in.	"	"
Washington st., 200 ft. south of Fairmount st.	"	"	"	"
North Munroe ter., at Neponset ave.....	"	6-in.	"	"
Adams st., at Ashmont st.....	"	20-in.	"	"
Jamaicaway, between Pond and Lochstead sts. (private for Park Department).....	W. R.	10-in.	Low.	"
Jamaicaway, between Lochstead and Perkins st. (private for Park Department)....	"	"	"	"

Air Cocks.*Abandoned.*

LOCATION.	District.	Diameter of Main.	High or Low Service.	Size of Air Cock.
Warren bridge, City Proper	C. P.	30-in.	Low.	1-in.
Dorchester st., between Vale and Jenkins sts.	S. B.	12-in.	"	2-in.
Dorchester st., at Old Colony R.R. bridge...	"	20-in.	"	"
Ruggles st., between Hampshire and Haskins st.....	Rox.	12-in.	"	1-in.
Washington st., at Burt st.....	Dor.	30-in.	High.	2-in.
Norfolk st., near Corbet st.....	"	12-in.	"	"

Blow-off Cocks.

LOCATION.	District.	Size.
<i>Established.</i>		
Chelsea st., bet. Scott's ct. and Medford st.....	Chsn.	2-in.
<i>Abandoned.</i>		
Hemlock st., on end of 8-in. main, near Bellevue ave.	W. Rox.	$\frac{3}{4}$ -in.

Deacon Meters.*Established.*

Dorchester street, near Dorchester avenue, South Boston.

Abandoned.

Harvard street, at Washington street, City Proper.

Fire Reservoirs.

Connections with Boston Water Department system abandoned at :

Hudson street, at Beach street.

Edinboro street, at Essex street.

Essex street, at Washington street.

E street, corner Baxter street.

Check Valves.*Established.*

One 6-inch at Long Island, on new 6-inch line from power house to reservoir, 22 feet west of gate in roadway.

Abandoned.

One 6-inch in King street at Dorchester avenue, Dorchester.

Statement of Service Pipes Laid and Abandoned during Year Ending January 31, 1905.

SIZE OF SERVICES LAID AND ABANDONED.	CITY PROPER.		SOUTH BOSTON.		EAST BOSTON.		ROXBURY.		DOR- CHESTER.		WEST ROXBURY.		BRIGHTON.		CHARLES- TOWN.		TOTALS.	
	Number of	Length in Feet.	Number of	Length in Feet.	Number of	Length in Feet.	Number of	Length in Feet.	Number of	Length in Feet.	Number of	Length in Feet.	Number of	Length in Feet.	Number of	Length in Feet.	Number of	Length in Feet.
12-inch laid.....	3	612	1	34	1	4	3	721	1	6	1	12	1	30	1	46	4	616
8 " ".....	5	612	3	150	1	48	2	204	2	41	1	12	1	30	1	46	9	1,367
6 " ".....	1	498	5	150	1	48	9	316	1	19	1	18	1	30	1	46	4	213
4 " ".....	30	498	2	36	3	90	5	48	1	12	1	25	3	121	2	46	48	1,065
4 " abandoned.....	4	80	2	36	3	90	5	48	1	12	1	25	3	121	2	46	5	1,065
3 " laid.....	27	672	9	183	3	90	5	48	1	12	1	25	3	121	2	46	34	957
3 " abandoned.....	3	63	9	183	3	90	5	48	1	12	1	25	3	121	2	46	4	75
2 " laid.....	21	499	3	77	1	28	1	28	1	57	2	46	1	3	1	15	46	1,058
2 " abandoned.....	3	31	3	77	1	28	1	28	1	57	2	46	1	3	1	15	3	31
1 1/2 " laid.....	13	287	1	15	1	46	1	46	1	57	2	46	1	3	1	15	19	410
1 1/2 " abandoned.....	8	216	1	15	1	46	1	46	1	57	2	46	1	3	1	15	8	216
1 1/4 " laid.....	3	57	1	15	1	46	1	46	1	57	2	46	1	3	1	15	7	175
1 1/4 " abandoned.....	3	49	2	46	2	92	3	70	2	50	1	46	2	42	2	40	6	114
1 " laid.....	38	1,041	2	124	2	64	3	70	2	50	1	46	2	42	2	40	51	1,431
1 " abandoned.....	25	537	5	158	3	28	2	33	1	52	1	46	1	21	3	89	37	787
1 " laid.....	12	388	1	16	1	18	2	48	1	52	1	46	1	21	3	89	23	608
3/4 " laid.....	11	347	42	1,126	79	1,818	60	1,456	202	5,370	110	2,772	43	1,021	41	1,007	15	512
3/4 " abandoned.....	75	1,124	9	246	66	712	15	443	13	316	6	169	4	59	12	201	652	15,694
1/2 " abandoned.....	130	4,238	27	27	2	56	1	21	1	24	1	46	1	59	12	201	255	6,384
1/2 " ".....	1	27	2	56	2	56	1	21	1	24	1	46	1	59	12	201	17	419
Total laid.....	228	5,773	66	1,761	86	2,024	87	3,073	211	5,589	120	2,942	50	1,235	49	1,197	897	23,594
Total abandoned.....	188	5,588	16	450	72	814	19	526	16	404	6	169	7	166	26	530	350	8,647
Net increase.....	40	185	50	1,311	14	1,210	68	2,547	195	5,185	114	2,773	43	1,069	23	667	547	14,947

Total number of service pipes, 90,560.

Aggregate length of same, 2,505,826 feet.

**Maintenance Work of Miscellaneous Character Performed
during the Year ending January 31, 1905.**

	Total number during the Year.
Boxes covering main pipe on bridges repaired	31
Brick gate chambers built, replacing wooden boxes	3
Deacon meters cleaned and painted	54
Dead ends blown off	521
Fountain repairs	233
Fountains and troughs cleaned and inspected	3,328
Gates in service oiled and tested for general efficiency	1,136
Gates renewed on account of deterioration	11
Gates repaired	158
Gate boxes cleaned of mud, water and snow	939
Gate boxes inspected	625
Gate boxes raised or lowered	406
Gate boxes renewed	207
Gate boxes repaired	384
Gate box covers salted in cold weather	8,858
Gate frames and covers renewed and marking of same changed	230
Gates inspected	1,136
Hydrant barrels braced	42
Hydrant barrels changed for various reasons	122
Hydrant barrels changed on account of street grading	40
Hydrant boxes cleaned of mud, water and snow	2,058
Hydrant boxes raised or lowered	185
Hydrant boxes renewed	271
Hydrant boxes repaired	214
Hydrant frames and covers renewed	163
Hydrants hayed and unhayed in cold weather	603
Hydrant inspections in cold weather	216,936
Hydrants in service oiled and tested for general efficiency	5,355
Hydrant nipples changed on account of thread	15
Hydrants painted	3,970
Hydrants repaired	729
Hydrant thawed out	302
Investigations made where further action on part of Water Department was unnecessary	841
Location of gates marked	8,429
Main pipe repairs caused by :	
Blasting	11
Burst	11
Defective joint	5
Defective pipe	10
Frozen	7
Joints drawn	7
Joints leaking	96
No cause assigned	9

	Total number during the Year.
Pick-hole	5
Rust	4
Settlement	53
Sewer construction	6
Split pipe	8
Vibration	6
Meter boxes raised or lowered	5
Meter boxes renewed	6
Meter frames and covers renewed	3
Pavement repairs	1,402
Salt (sacks of) purchased and delivered to Fire Dep't	4,000
Service pipe repairs caused by :	
Blasting	20
Broken by back-filling heavy stone	3
Broken by foundation wall	34
Broken by resting on stone	3
Broken by steam-roller	3
Defective couplings	100
Defective joints	50
Defective pipes	175
Eaten by ashes	2
Eaten by cement	2
Eaten by lime	3
Electrolytic action	24
Frost (cold storage)	10
Frost (natural)	199
Gnawed by rats	9
Main cocks required renewal	63
Main upright caps required renewal	5
Main uprights missing	12
Main uprights required renewal	87
Operations of Boston Elevated Railway Company	2
Operations of Boston Transit Commission	14
Operations of Sewer Department and its agents	101
Operations of Street Department	2
Pipe stolen	1
Screw in gate broken	4
Settlement of earth	325
Settling of service boxes on pipes	15
Sidewalk cocks required renewal	357
Sidewalk uprights above and below grade	17,193
Sidewalk uprights in way of edgestones	31
Sidewalk uprights inspected	867
Sidewalk uprights required renewal	326
Sidewalk tops broken	36
Stem in gate broken	1
Stopped by dirt	107
Stopped by fish	35
Stopped by gasket	8

	Total number during the Year.
Stopped by rust	317
Struck by pick	112
Stuffing boxes in gates leaking	3
Worn out	11
Service pipes (portions of) changed from $\frac{1}{2}$ -inch to $\frac{5}{8}$ -inch pipe	3
Service pipes changed from tin-lined to all lead	8
Service pipes extended on account of street widening	54
Service pipes lowered as a protection from frost	4
Service pipes moved from way of various corporations	14
Service pipes shut off and let on to permit owners to make repairs	896
Sidewalk cocks and uprights given to individuals to apply to private pipes	31
Temperature of water in cold-water fountains taken in summer season	1,699
Water post repairs of various kinds	454
Water posts shut off and let on during cold weather	3,168

Statement of Stock Manufactured from the Rough in the Machine Shop, Blacksmith Shop, and Carpenter Shop during the Year ending January 31, 1905.

MACHINE AND BLACKSMITH SHOPS.

Valves:			Coupling Tubes:		
3-inch	10		$\frac{5}{8}$ -inch	4,554	
4 "	36		$\frac{3}{4}$ "	86	
6 "	30		1 "	233	
8 "	27		$1\frac{1}{4}$ "	12	
10 "	41		$1\frac{1}{2}$ "	103	
12 "	69		2 "	62	
16 "	19			—	5,050
20 "	3		Main Nipples:		
	—	235	2-inch	28	
Hydrants:			Meter Nipples:		
Batchelder Post	99		$1\frac{1}{2}$ -inch	117	
Lowry	58		2 "	54	
Boston Lowry	1			—	171
	—	158	Solder Nipples:		
Corporation Cocks:			$\frac{5}{8}$ -inch	14	
$\frac{5}{8}$ -inch	951		1 "	62	
1 "	41		$1\frac{1}{4}$ "	30	
$1\frac{1}{2}$ "	29		$1\frac{1}{2}$ "	66	
	—	1,021	2 "	94	
Air Cocks:				—	266
2-inch	5		Bolts:		
Angle Cocks:			Lowry Hydrant	73	
$\frac{5}{8}$ -inch	131		Post "	514	
Sidewalk Cocks:			Boston Lowry Hydrant	71	
$\frac{5}{8}$ -inch	971		Boston Hydrant	40	
Male Couplings:			Lowry Extension	54	
$\frac{5}{8}$ -inch	684		Post "	80	
$\frac{3}{4}$ "	104			—	832
1 "	112		Jointers :		
$1\frac{1}{2}$ "	14		4-inch	6	
	—	914	6 "	23	
Bent Tube Couplings:			8 "	5	
$\frac{1}{2}$ -inch	6		10 "	9	
2 "	17		12 "	21	
	—	23	36 "	8	
Combination Couplings:				—	72
$\frac{3}{4}$ -inch	50		Hydrant wastes		404
$1\frac{1}{2}$ "	25		Plugs, iron :		
2 "	22		1-inch	200	
	—	97	$1\frac{1}{4}$ "	150	
Female Hose Couplings:			$1\frac{1}{2}$ "	175	
2-inch	205		2 "	100	
Coupling Nuts:				—	625
$\frac{5}{8}$ -inch	4,351		Gate pins		5,509
$\frac{3}{4}$ "	15		Sidewalk bushings		971
1 "	207		Lowry wrenches		24
$1\frac{1}{4}$ "	43		Oil plugs		149
$1\frac{1}{2}$ "	18		Screws, $\frac{3}{8}$-inch		100
2 "	84		Set screws :		
	—	4,718	$\frac{7}{8}$ -inch	429	
Combination Nuts:			1-inch	158	
2-inch	20			—	587

CARPENTER SHOP.

Boston hydrant boxes . . .	18	
Boston Lowry hydrant boxes	56	
Lowry hydrant boxes . . .	108	
Post " " . . .	360	
Gate boxes, large . . .	30	
" " small . . .	507	
Deacon meter boxes . . .	6	
Boston hydrant box tops . .	6	
Lowry " " " . . .	61	
Post " " " . . .	74	
Gate box tops, large . . .	24	
" " " small . . .	194	
Lowry hydrant box pieces :		
1-inch	509	
2 "	402	
3 "	192	
4 "	77	
	—	1,180

Boston hydrant box pieces:		
1-inch	151	
2 "	90	
3 "	63	
	—	304
Gate box pieces :		
1-inch	942	
2 "	655	
3 "	315	
4 "	19	
6 "	25	
9 "	10	
12 "	11	
	—	1,977
Wooden horses		167

OLD STOCK RENOVATED BY MACHINE AND BLACKSMITH SHOPS.

Valves:		
3-inch	2	
4 "	11	
6 "	16	
8 "	10	
10 "	1	
12 "	6	
	—	46

Hydrants:		
Lowry	49	
Boston Lowry . . .	27	
Bach. post . . .	42	
Boston	13	
Salt water	2	
	—	133

Corporation cocks:		
$\frac{1}{2}$ -inch	1	
$\frac{5}{8}$ "	244	
$\frac{3}{4}$ "	3	
1 "	76	
$1\frac{1}{4}$ "	10	
$1\frac{1}{2}$ "	17	
	—	351

Water post cocks:		
$1\frac{1}{4}$ -inch	1	
$1\frac{1}{2}$ "	2	
	—	3

Sidewalk cocks:		
$\frac{5}{8}$ -inch	14	
1 "	1	
	—	15

Male couplings:		
$\frac{5}{8}$ -inch	26	
$\frac{3}{4}$ "	8	
1 "	4	
$1\frac{1}{4}$ "	2	
$1\frac{1}{2}$ "	10	
2 "	2	
	—	52

Coupling nuts:		
$\frac{5}{8}$ -inch	887	
$\frac{3}{4}$ "	64	
1 "	46	
$1\frac{1}{4}$ "	9	
$1\frac{1}{2}$ "	16	
2 "	6	
	—	1,028

Coupling tubes:		
$\frac{5}{8}$ -inch	518	
$\frac{3}{4}$ "	199	
1 "	38	
$1\frac{1}{4}$ "	3	
$1\frac{1}{2}$ "	28	
2 "	19	
	—	805

Main nipples:		
2-inch		6

Meter nipples:		
$\frac{5}{8}$ -inch	10	
$1\frac{1}{4}$ "	2	
$1\frac{1}{2}$ "	2	
	—	14

Solder nipples:		
$\frac{1}{2}$ -inch	1	
1 "	8	
$1\frac{1}{4}$ "	1	
$1\frac{1}{2}$ "	11	
2 "	9	
	—	30

Bolts:		
Lowry hydrant . . .	62	
Post "	42	
Boston Lowry hydrant	23	
Boston Lowry hydrant, extension	5	
Post hydrant, extension	8	
	—	140
Hydrant wastes		297

In addition to the foregoing, the Machine, Carpenter, Paint, Plumbing and Blacksmith shops performed much work of miscellaneous nature in the maintenance and improvement of the property of the Water Department. Some of the important items are as follows :

Repaired and painted wagons and carriages. Aggregate cost, \$1,598.99.

Repaired tools of all descriptions. Aggregate cost, \$1,555.53.

Sharpened 18,666 picks, 3,255 bars and 3,973 chisels. Aggregate cost, \$1,344.89.

Made 1,171 tools of various kinds. Aggregate cost, \$1,333.84.

Performed 150 odd jobs in and around yard, shops and offices, including painting and scraping of old castings. Aggregate cost, \$1,040.31.

Made 35 patterns of varying size and nature. Aggregate cost, \$885.50.

Made tools of various kinds such as wedges, derricks, rammers, etc., not included in previous item. Aggregate cost, \$583.45.

Performed 27 odd jobs of varying extent in stables. Aggregate cost, \$467.38.

Repairs on building at Dorchester yard, \$354.63.

Repairs on building and yard at Charlestown yard. Aggregate cost, \$239.80.

Repaired patterns. Aggregate cost, \$236.02.

Repaired and painted fence at Albany street yard.

Performed 7 odd jobs for Engineering Department, making book rests, etc., etc.

Made 17 brass pumps for Meter Department.

Repairs at East Boston yard and reservoir fence.

Repairs at Brookline reservoir.

Repairs at Brighton yard.

Repairs at West Roxbury yard.

REPORT OF THE ENGINEER.

CITY OF BOSTON,
ENGINEERING DEPARTMENT,
50 CITY HALL, January 31, 1905.

E. S. SULLIVAN, ESQ.

Water Commissioner :

DEAR SIR, — The following is some of the most important work done during the past year :

The construction of the Stony Brook conduit in Charlesgate East made it necessary to abandon 300 feet of 48-inch main, which crossed the conduit location immediately north of Commonwealth avenue bridge, under the outlet channel of the Back Bay Fens ; the main was relocated over the bridge, and reduced for a distance of 118 feet, within the limits of bridge and conduit, to a 36-inch pipe.

Owing to the proposed subway construction in Washington street it was considered inadvisable to attempt to maintain the 24-inch L. S. main in that street between Boylston and Water streets. A 36-inch main was therefore laid from Washington street at Boylston to Milk street, via Essex, Kingston, Otis, Devonshire, Franklin and Congress streets ; thence a 24-inch main via Post Office square and Water street was laid and connected with the existing 24-inch main in Washington street at Water street ; connections with these new mains were made on Essex street at Oxford street, on Bedford street, on Franklin street, on Milk street and on Water street ; 30-inch branches were established at Congress street for the proposed extension to South Boston and at Milk street for the proposed extension northerly. A total curvature of 630° was made in 2,974 lineal feet of the 36-inch pipe, using 18 one-sixteenth and 20 one-thirty-second curves ; in 524 feet of 24-inch pipe the total curvature was $607^{\circ} 30'$. and 6 one-eighth and 15 one-sixteenth bends were used. The work was done by the regular force of the Water Department, and was necessarily slow and expensive, as obstacles were continually encountered : for a large part of the distance, particularly at street crossings, the location of so large a pipe virtually meant the reconstruction of existing systems of conduits, water and gas pipes, electric tubes, sewers, etc. The location of this main is through the

centre of the Low Service business district, making it possible to develop the distribution system in that territory to the best advantage.

The 30-inch H. S. main in Washington street, Dorchester, was extended from Fairmount street to Codman street, thence a 20-inch main was laid in Codman street to Dorchester avenue and connected with the 12-inch H. S. pipe at that point.

The following work was done for the improvement of the fire service:

1,327	feet	16-inch	pipe	laid,	replacing	12-inch.
12,562	"	12-inch	"	"	"	8-inch, 6-inch and 4-inch.
4,154	"	10-inch	"	"	"	6-inch and 4-inch.
3,438	"	8-inch	"	"	"	6-inch and 4-inch.

The first step was taken during the past year towards furnishing an improved L. S. and H. S. supply to South Boston flats by the construction of a tunnel under Fort Point channel, immediately south of Congress street bridge. The tunnel is of brick, in the form of an inverted siphon, to carry a 30-inch L. S. and a 24-inch H. S. water pipe. The shafts are $7\frac{1}{4}$ feet in diameter with brick walls 16 inches thick; they are enclosed in a steel cylinder $\frac{1}{2}$ inch thick, from their top to a point about 20 feet below the bottom of the channel, and are protected by substantial circular fenders. The horizontal portion of the tunnel, 119 feet long, is circular, 8 feet in diameter, and is lined with 12-inch brickwork; its top is at grade —38, the present bottom of channel being grade —18, and the proposed grade for future dredging being —23. The material excavated was stiff blue clay with sand seams; the work was done under air pressure.

The thawing of frozen service pipes by electricity was successfully continued during the past winter.

The work of electrical investigation has been carried on throughout the year. In addition to surveys made to determine the difference of potential between pipe and rails, twenty-nine "permanent stations" have been established for measuring approximately the actual flow of electricity upon the pipes. These "stations" are made by inserting brass plugs 10 feet apart into a water pipe, and from the plugs No. 10 insulated wire is brought to the surface of the ground. The difference of potential at the ends of the wires is determined, and the approximate flow on the pipe is estimated, the resistance per pound per foot of cast-iron water pipe having been previously determined by experiment. A number

of test pits have been dug and many volt-meter and ammeter readings have been taken in other excavations; the actual condition of pipes examined has been carefully noted, plaster casts and photographs being made in many cases.

Damage is being done to the water pipes by electrolysis, notably in the vicinity of the large power stations of the Boston Elevated Railway.

Respectfully submitted,

WILLIAM JACKSON,
City Engineer.

Average Stated Monthly Heights, in Feet, above City Base, to which Water Rose at Different Stations, on the Boston Water Works.

* Weston aqueduct supply rights.

† Night pressure reduced by operating gates at Chestnut Hill.

† On June 20, district in which this gauge is situated was placed on high service.

Monthly Rainfall in Inches during 1904 in Various Places in Eastern Massachusetts.

PLACES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Framingham.....	4.70	3.00	2.69	8.78	2.44	2.70	2.14	3.41	5.64	1.51	1.73	2.96	41.70
Dam 4, Ashland.....	4.63	3.06	2.76	8.99	2.70	2.27	1.57	3.81	6.08	1.69	1.73	3.11	42.40
Cordaville.....	5.52	3.08	2.85	9.31	2.60	2.86	1.89	3.92	6.69	1.78	1.80	2.81	45.11
Lake Cochituate.....	4.75	3.11	2.78	8.68	2.14	2.86	1.80	3.32	6.78	1.66	1.84	2.39	42.11
Chestnut Hill Reservoir.....	5.64	2.96	2.79	9.18	3.28	2.75	1.48	2.74	5.75	2.21	1.81	2.81	43.40
Spot Pond.....	5.74	3.08	2.99	9.42	3.98	3.56	1.51	3.47	5.38	1.89	1.75	2.34	45.11
Cambridge Observatory.....	5.15	2.76	2.85	9.28	3.77	2.64	1.68	2.37	5.84	2.00	1.80	4.35	44.49
Waltham, Boston Manufacturing Company.....	5.85	3.32	3.10	10.56	3.04	2.98	2.64	3.35	7.22	1.41	2.13	2.82	48.42
Lowell, Locks and Canals Company ...	4.54	2.48	2.65	9.32	2.98	4.00	1.83	3.21	5.51	1.28	1.51	2.33	41.64
Main Drainage Yard, 795 Massachusetts avenue...	4.63	2.70	2.49	10.00	3.71	2.12	1.38	2.86	5.82	2.32	1.96	2.30	42.29
Average of above ten places.....	5.12	2.96	2.80	9.35	3.06	2.87	1.79	3.25	6.07	1.78	1.81	2.82	43.67

GENERAL STATISTICS.

BOSTON WATER DEPARTMENT.

Daily average amount used through meters during 1904 (gallons)	18,546,000
Number of services February 1, 1905	90,560
Number of meters in service February 1, 1905	4,771
Number of motors under supervision February 1, 1905	124
Number of elevators under supervision February 1, 1905	592
Length of supply and distributing mains in miles February 1, 1905	736
Number of public hydrants in use February 1, 1905	7,614
Yearly revenue from annual water rates	\$1,319,841 85
Yearly revenue from metered water	\$1,049,831 58
Percentage of total revenue from metered water, ...	44.3
Yearly expense of maintenance	\$564,419 94

¹BOSTON WATER BOARD.

ORGANIZED JULY 31, 1876.

TIMOTHY T. SAWYER, from July 31, 1876, to May 5, 1879; and from May 1, 1882, to May 4, 1883.
 * LEONARD R. CUTTER, from July 31, 1876, to May 4, 1883.
 * ALBERT STANWOOD, from July 31, 1876, to May 7, 1883.
 * FRANCIS THOMPSON, from May 5, 1879, to May 1, 1882.
 WILLIAM A. SIMMONS, from May 7, 1883, to August 18, 1885.
 GEORGE M. HOBBS, from May 4, 1883, to May 4, 1885.
 JOHN G. BLAKE, from May 4, 1883, to August 18, 1885.
 WILLIAM B. SMART, from May 4, 1885, to March 18, 1889.
 * HORACE T. ROCKWELL, from August 25, 1885, to April 25, 1888.³
 THOMAS F. DOHERTY, from August 26, 1885, to May 5, 1890; and from May 4, 1891, to July 1, 1895.
 ROBERT GRANT, from April 25, 1888, to July 17, 1893.³
 PHILIP J. DOHERTY, from March 18, 1889, to May 4, 1891.
 * JOHN W. LEIGHTON, from May 5, 1890, to July 1, 1895.
 WILLIAM S. McNARY, from August, 15, 1893, to November 5, 1894.³
 CHARLES W. SMITH, from January 23, 1895, to July 1, 1895.

¹WATER COMMISSIONERS.

CHARLES W. SMITH, from July 1, 1895, to January 20, 1896.³
 JEREMIAH J. MCCARTHY (Acting), from January 20 to February 1, 1896.
 JOHN R. MURPHY, from February 1, 1896, to October 17, 1899.³
 BENJAMIN W. WELLS (Acting), from October 17, 1899, to December 28, 1899.
 * AUGUSTUS P. MARTIN, from December 28, 1899, to March 13, 1902.²
 JAMES DONOVAN (Acting), from March 14 to 17, 1902.
 EUGENE S. SULLIVAN, from March 17, 1902, to present time.

Assistant Water Commissioners.

JEREMIAH J. MCCARTHY, from July 1, 1895, to January 20, 1896.
 EDWARD C. ELLIS, from February 17, 1896, to November 1, 1900.
 * MELVIN P. FREEMAN, from February 7, 1900, to March 9, 1902.³
 WILLIAM H. OAKES, from November 1, 1900, to March 9, 1902.³
 EUGENE S. SULLIVAN, from March 10 to March 17, 1902.
 ISAAC ROSNOSKY, from March 10, 1902, to present time.
 JOHN J. LEAHY, from March 21, 1902, to present time.

Chief Clerk and Secretary.

WALTER E. SWAN.

General Superintendent Income Division.

JOS. H. CALDWELL.

Superintendent Distribution Division.

WILLIAM J. WELCH.

City Engineer and Engineer of the Department.

WILLIAM JACKSON.

¹Under Chap. 449 of the Acts of 1895 the Boston Water Board was abolished, and the Water Supply and Water Income Departments consolidated and placed under the charge of one Water Commissioner.

* Deceased.

² Died in office.

³ Resigned.



